AUGUST 1983

75p

COMPUTER & VIDEO GAMES

WIN £5,000 CASH

In our Summer Programming Competition



Quick on the trigger?

Then try the ARCADE ARENA listings

GLADIATOR

Games listings for the Vic Spectrum BBC ZX81 Atari and many more inside

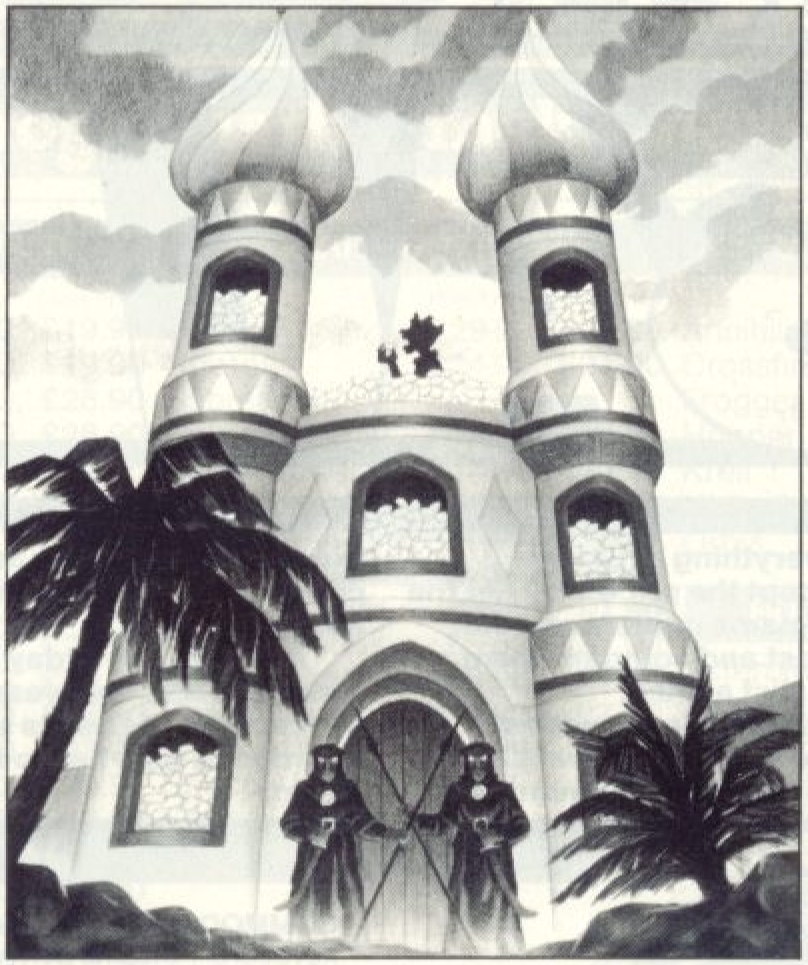


spectrum games
An amazing collection of exciting games for VIC 20 and ZX Spectrum
Featuring–
■ Hi-Resolution Graphics
■ Solid Machine Code Thrills
■ Authentic Arcade Action
■ Sensational Sound Effects
Titles for Oric, Dragon and Commodore 64
Ring for details:
061-832 9143
(24 HOURS)
Dealer enquiries invited
FREEPOST MANCHESTER M3 8BB.
KONG/MANIC/MISSILE ATTACK/
STRIKE FORCE/ROAD FROG/
MONSTER MUNCHER/ROCKET COMMAND/
FRENZY/COSMIC INTRUDERS
Available from all good software dealers and major department stores
remember to ask for
spectrum games
by name

COMPUTER & VIDEO GAMES

CONTENTS

AUGUST 1983 Vol II No 9



Glittering prizes

Two competitions this month, one for the programmers and one for the games players.

We outline the rules for our grand £5,000 Calisto Programming Competition on page 10. First prize is £5,000 but anyone could win the chance of a Calisto Software programming contract to market the game they have entered.

If you want to play games rather than write them, then turn to Arcade Arena and find a game for your micro.

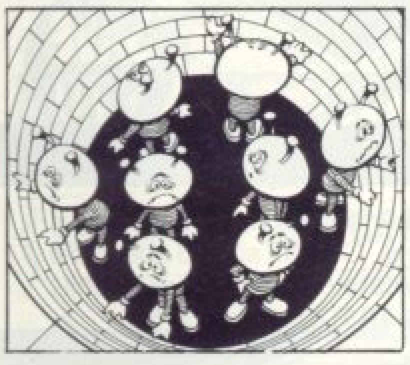
Send in your best score to us and we'll invite the top scorers along to a grand final.

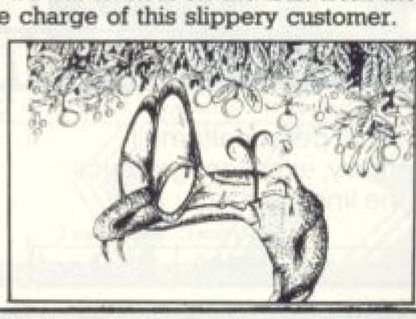
Arcade Arena starts on page 81 with games for the Atari, Spectrum, Vic-20 and Sharp.

News & Reviews

Listings







Features

Editor Terry Pratt, **Assistant editor** Eugene Lacey, **Editorial assistant** Clare Edgeley, **Reader services** Robert Schifreen, **Art editor** Linda Freeman, **Designer** Lynda Skerry, **Production editor** Tim Metcalfe, **Advertisement manager** Rita Lewis, **Advertising executives** Louise Matthews, Mick Cassall, **Advertisement assistant** Louise Flockhart, **Publisher** Tom Moloney

Editorial and advertisement offices: Durrant House, 8 Herbal Hill, London EC1R 5JB; Telephone Editorial 01-278 6556, Advertising 01-278 6552

COMPUTER AND VIDEO GAMES POSTAL SUBSCRIPTION SERVICE. By using the special Postal Subscription Service, copies of COMPUTER AND VIDEO GAMES can be mailed direct from our offices each month to any address throughout the world. All subscription applications should be sent for processing to COMPUTER AND VIDEO GAMES (Subscription Department), Competition House, Farmdon Road, Market Harborough, Leicestershire. All orders should include the appropriate remittance made payable to COMPUTER AND VIDEO GAMES. Annual subscription rates (12 issues): UK and Eire £10.00 Overseas surface mail £12.00 Airmail Europe £20.00 Additional service information including individual overseas airmail rates available upon request. Circulation Department: EMAP National Publications. Published and distributed by EMAP National Publications Ltd. Printed by Eden Fisher (Southend) Limited.

 ISSN 0261 3697.

Cover illustration: **Bob Murdoch** Arcade Arena illustrations: **Stephen Gulbis** Next issue: **August 16th**

Micropoint

SALE

Even at sale time everything at Laskys remains the same – except the price. You get the same wide range of top name models and the unique opportunity to test and compare them side by side, with specialist advice.

Just look at these savings on the widest range of top name home computers available in the High Street. Names like, Atari, Commodore, Sinclair, Oric, Jupiter and New Brain, plus a comprehensive selection of compatible software and peripherals.

And with our 14 day exchange, up to £1,000 Instant Credit,* two year free guarantee ▲ and the back-up of Laskys service engineers, the Micropoint Sale has to be the place to buy your micro.

COMMODORE



Prev. Price ~~£339.00~~
Sale Price **£319.00**

COMMODORE 64 A home computer with a full size keyboard. Powerful 64K memory, sprite graphics, colour and sound.

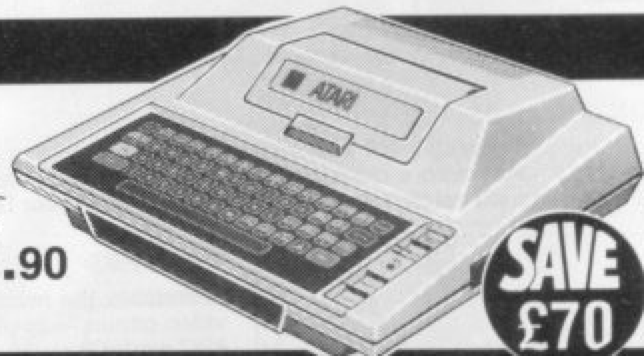
	Prev. Price£	Sale Price£
3K RAM Expansion for VIC-20	~~29.90~~	**26.90**
8K RAM Expansion for VIC-20	~~46.90~~	**39.90**

ATARI

ATARI 400 Home computer with 16K memory. Sound generator. Good graphics and colour. Includes 'Basic' kit.

	Prev. Price£	Sale Price£
ATARI 800 48K Home Computer	~~399.00~~	**279.00**
Atari 822 Printer	~~249.00~~	**179.00**
Atari 810 Disk Drive (only compatible with Atari 800).	~~329.00~~	**279.00**

Prev. Price ~~£199.90~~
Sale Price **£129.90**



ORIC



Prev. Price ~~£169.90~~
Sale Price **£149.90**

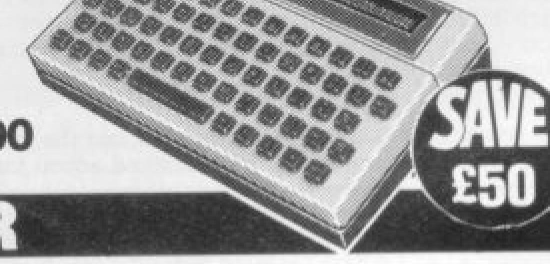
ORIC 48K A home computer with 48K RAM. Ergonomic keyboard with 57 moving keys. Colour, sound and a hi fi sound output. Teletext/Viewdata compatible graphics.

NEWBRAIN

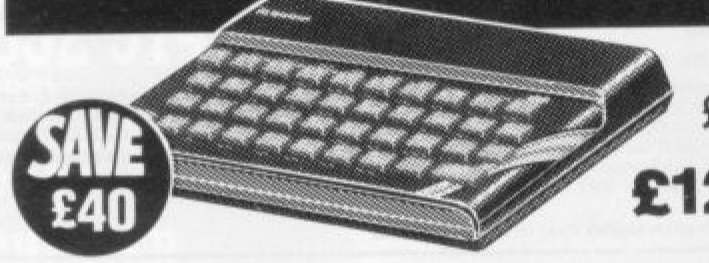
NEWBRAIN MODEL AD An ideal personal/small business computer 32K memory, excellent graphics and character set. Built-in one line display.

	Prev. Price£	Sale Price£
Newbrain Model A	~~269.00~~	**219.00**

Prev. Price ~~£299.00~~
Sale Price **£249.00**



SINCLAIR



Prev. Price ~~£169.90~~
Sale Price **£129.90**

SINCLAIR SPECTRUM 48K with full colour and sound. High resolution graphics.

	Prev. Price£	Sale Price£
Sinclair Spectrum 16K	~~124.90~~	**99.90**
Sinclair Spectrum Printer	~~52.00~~	**39.90**

at Laskys

It's the programs that make micros magic

ATARI FOR 400/800

	Prev. Price	Sale Price
Astrochase	~~£21.90~~	£19.90
Baja Buggys	~~£21.90~~	£19.90
Choplifter	~~£29.90~~	£26.90
Claim Jump	~~£29.90~~	£26.90
Compute 4	~~£14.90~~	£12.90
Darts	~~£19.90~~	£17.90
Escape from Traam	~~£17.90~~	£15.90
Figure Fun	~~£14.90~~	£12.90
Gorf	~~£29.90~~	£26.90
Jumbo Jet	~~£34.90~~	£29.90
Kick Back	~~£28.90~~	£25.90
Legionaire	~~£26.90~~	£23.90
Miner 2049	~~£34.90~~	£29.90
Moonbase 10	~~£21.90~~	£19.90
Mutant Herd	~~£24.90~~	£21.90
Picnic Paranoia	~~£29.90~~	£26.90
Pool	~~£19.90~~	£17.90
Preppie	~~£21.90~~	£19.90
Protector 2	~~£29.90~~	£26.90
Seadragon	~~£24.90~~	£21.90
Snooker	~~£19.90~~	£17.90

ATARI FOR 400/800

	Prev. Price	Sale Price
Soccer	~~£29.90~~	£26.90
Stratos	~~£24.90~~	£21.90
Submarine Command	~~£34.90~~	£29.90
Super Cubes	~~£14.90~~	£12.90
Zaxxon	~~£29.90~~	£26.90

ROMIK FOR VIC 20

	Prev. Price	Sale Price
Martian Raider	~~£9.90~~	£7.90
Moons of Jupiter	~~£9.90~~	£7.90
Multisynthesiser	~~£9.90~~	£7.90
Power Blast	~~£9.90~~	£7.90
Shark Attack	~~£9.90~~	£7.90
Space Attack	~~£9.90~~	£7.90
Space Fortress	~~£9.90~~	£7.90
Time Destination	~~£9.90~~	£7.90

RABBITT FOR VIC 20

	Prev. Price	Sale Price
Annihilate	~~£9.90~~	£7.90
Crossfire	~~£9.90~~	£7.90
Frogger	~~£9.90~~	£7.90
Hopper	~~£9.90~~	£7.90
Krell	~~£9.90~~	£7.90
Night Crawl	~~£9.90~~	£7.90
Orbis	~~£9.90~~	£7.90

BUG BYTE FOR VIC 20

	Prev. Price	Sale Price
Asteroids	~~£6.90~~	£4.90
2 Cosmiads	~~£6.90~~	£4.90
Gammon	~~£6.90~~	£4.90
Panic	~~£6.90~~	£4.90
Another VIC In the Wall	~~£6.90~~	£4.90



UP TO £1000 INSTANT CREDIT*

CHECK OUT OUR COMPREHENSIVE RANGE OF PERIPHERALS AT SALE PRICES

SALE STARTS 17th JUNE

▲ The Retail Division of The Ladbroke Group

LASKYS

▲ Computers/V.D.U. monitors normal domestic use 2 years (business use 1 year). Programs Peripherals normal domestic use 1 year (business use 6 months). Pre-recorded cassettes and programs will only be exchanged if proven faulty and then only for same cassette/program. All offers subject to availability. Prices are correct at time of going to press 23.5.83.
Some of these models shown need a separate TV or monitor. Microspot has a complete range of suitable models from £59.90 (B/W) or £198.90 (Colour)

* All credit offers subject to acceptance. Laskys Credit brokers. Please ask for written details. **APR 29.3%**

LASKYS STEREOCLUB

A service provided in association with Unicredit Finance Ltd. Please ask for written details **APR 29.8%** if you pay by Bankers Order (34.5% for other methods of payment)

Full stock available at these branches:

LONDON
42 Tottenham Court Road, W1
471-3 Oxford Street, W1
7-9 Queensway, W2
ALSO OPEN SUNDAY 11am-7pm
BROMLEY 22 Market Square
KINGSTON Eden Street
LUTON 192 Arndale Centre
READING Friar Street
MAIDSTONE 79-81 Week Street
BRIGHTON 151-2 Western Road
BRISTOL 16-20 Penn Street
GLOUCESTER 25 Eastgate Street
BIRMINGHAM 19-21 Corporation St.
CHESTER 7 The Forum
MANCHESTER 12/14 St Marys Gate
NEWCASTLE-UPON-TYNE 6 Northumberland St.
NOTTINGHAM 1-4 Smithy Row
PETERBOROUGH Queensgate Centre
PRESTON Guildhall Arcade
SHEFFIELD 58 Leopold Street
YORK 10a Coney Street
LIVERPOOL 33 Dale Street
EDINBURGH 4 St. James' Centre
GLASGOW 66-70 Buchanan Street
CARDIFF 122 Queen Street

A range of home/hobbyist computers with peripherals and programs, are available from these branches.

LONDON
257 Tottenham Court Road, W1
382 Edgware Road, W2
152 Fleet Street, EC2
Golders Green Road, NW11
COLCHESTER 13 Trinity Square
CROYDON Whitgift Centre
SLOUGH Queensmere Centre
WATFORD Charter Place
CHATHAM 8 The Pentagon
ROMFORD South Street
SOUTHEND 205-206 Churchill West
LEICESTER 45 Market Place South
NORTHAMPTON 78 Abington Street
OXFORD 16 Westgate
WOLVERHAMPTON 30 Wulfrun Way





Please drop us a line at: Computer and Video Games, EMAP, Durrant House, 8 Herbal Hill, London EC1R 5JB.

QUICKDRAW TO MUSIC

Dear Sir,
Quickdraw in the June 1983 issue of *C&VG* was excellent. I typed it into my Apple computer and was immediately impressed by the graphics. But the Death March tune was awful! I have written a new Death March routine which other readers might like to try.

Change line 98 to read as follows: 98 DATA 245, 215, 200, 245, 205, 150, 245, 173, 50, 245, 205, 150, 230, 203, 100, 235, 175, 50, 235, 190, 150, 245, 185, 50, 245, 185, 150, 247, 190, 50, 245, 255, 500.

Mark Heather,
Sevenoaks,
Kent.

OVER THE STICKS!

Dear Sir,
I own a 16k ZX81 and have a motherboard and wish to attain a 1/0 port so that I can use my Atari joysticks. So please could you tell me if there is any such 1/0 port for Atari joysticks and who makes them.

Dean Clark,
Barking,
Essex.

Editor's reply: There are three main joystick controllers for the Sinclair machines. They are made by Kempston, Fuller and AGF. Kempston and AGF modules plug directly into the rear of the ZX computer. The Fuller system is part of its "box". These will all be reviewed in the near future.

Keith Archer, of Fuller, describes what happens when a joystick is used: The Fuller box has a joystick controller port or socket which works in a similar way to Kempston's.

Our joystick is sensed by the Spectrum using the 'IN' command. The eight-data bits of port 127 are usually high ie. Port 127 contains decimal 255 or binary 1111111. As the joystick is moved around or the fire button pressed, certain bits of the eight-bit, byte will be pulled low to logic 0.

Therefore the IN 127 command would return different decimal values according to which direction the joystick is being pushed.

```
7   6   5   4   3   2   1   0
BIT NO.

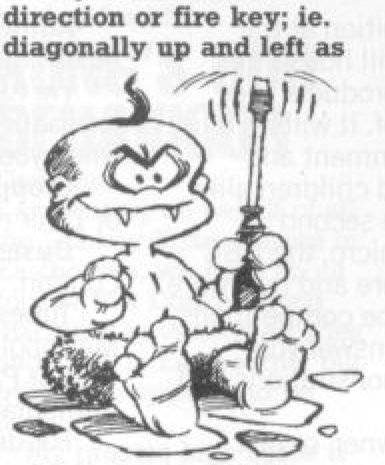
PORT 127
1   1   1   1   1   1   1   1
NORMALLY HIGH — LOGIC 1

F               R   L   D   U
I               I   E   O   P
CONTROL OF JOYSTICK

R               G   F   W
E               H   T   N
                T
```

As the joystick is pushed up, bit ϕ is pulled low so the binary value becomes 1111111ϕ — decimal 254. When the fire key is pressed bit 7 goes low giving ϕ1111111 — decimal 127.

Any combination of direction or fire key; ie. diagonally up and left as well as fire would give three bits low ie. ϕ11110 1ϕ — decimal 122



So, in a Basic program, a statement of the form: IF INKEY$ = "5" THEN LET X=X+1 for action to the left could be replaced by IF IN 127 = BIN 11111ϕ11 THEN LET X = X+1 or IF IN 127 = 251 THEN LET X = X+1

Replacing the appropriate INKEY$ statement with the right IN 127 command, a game could be controlled by joysticks instead of cursor keys, or any other combination of keys.

One common question asked is "which keys does your joystick work on?" The answer is none.

Buying a joystick does not mean that you can control all your games without changes. I have found that people think that if they have a game which uses the cursor control keys — 5,6,7,8, with ϕ to fine or similar, and they find another game with the same keys to control the game but it also works on a joystick, then they assume that all games using these keys will be OK using a joystick and controller.

They don't realise that the game needs to be changed to suit the joystick being used.

THE LONG LOST BUG!

Dear Sir,
A word about the bugs. What has happened to Lost Memory (see May 82, issue No. 7)? I suppose he's forgotten which micro he was in and has just wandered off. By the way, who is the person behind the marvellous Bugs strips?

As an ardent fan of the Bugs (when in magazines and not in ROM's or in programs) I thought of a basic story line you might want to use: The micro has a synthesiser, and when it plays music (or "Pings", "Zaps" and "Brrr's" as the case may be) it's all thanks to the Bug's band. The micro-owner, however, buys a super-addictive 'shoot-em-down' game with "Zaps", "Boings", "Wagawooawag-awoo's" and everything else you can think of.

So as the micro-owner plays this game for hours on end the bugs soon collapse exhausted and all that's left of the game in the way of sound is "Blip!", "Crash!", "Aaargh!", "Omph!", "Phutt!"

Jeremy Youngman,
Old Catton,
Norwich.

Editors reply: Elphin Lloyd-Jones is the man behind the Bugs Jeremy, and he is always looking for new ideas for scripts — otherwise he has to rely on the feeble efforts of yours truly. So we'll consider your idea and if anyone else out there has a good idea for a Bugs' script please put it down on paper and write in.

A WOULD-BE SKY PILOT

Dear Sir,
I own a 32k Pet and as yet I have not found one flight simulation for it.

Please could you ask your readers if they know of any company which supplies this game?

P.S. What do you get if you cross a nuclear reactor with a computer? Fission Chips!

Barry Jones,
Knebworth,
Herts.

CONVERTING COMMANDS

Dear Sir,
At school we learn how to write programs and use a Pet computer, but I can only afford an ZX81 plus 16k RAM. Could you tell me if there is a piece of hardware or cassette to convert the INPUT command to READ/DATA?

Dean Moore,
Darwen,
Lancs.

Editor's reply: Most ZX81 programs use string arrays to overcome the lack of READ/DATA, RESTORE. They also use LET too.

You will have to do this conversion to get any software using these constructions to run on the ZX81. (Slice the string containing the information.)

Calisto Software Ltd.

SPECIALISTS IN MICROCOMPUTER SOFTWARE
119 JOHN BRIGHT STREET, BIRMINGHAM B1 1BE
Telephone: 021-643 5102

Manufacturers of 32k and 48k memory boards for Atari 400/800

Manufacturers of moving keyboards for the Atari 400.

Distributors of Atari software.

Distributors of BBC, ZX81, Spectrum, Oric, Dragon 32, Vic 20, Comm-64, Newbrain software.

Authors: We publish software for all popular micros. Send in your programs for appraisal.

Software houses: We distribute software for all popular micros. Ring us with details of your products.

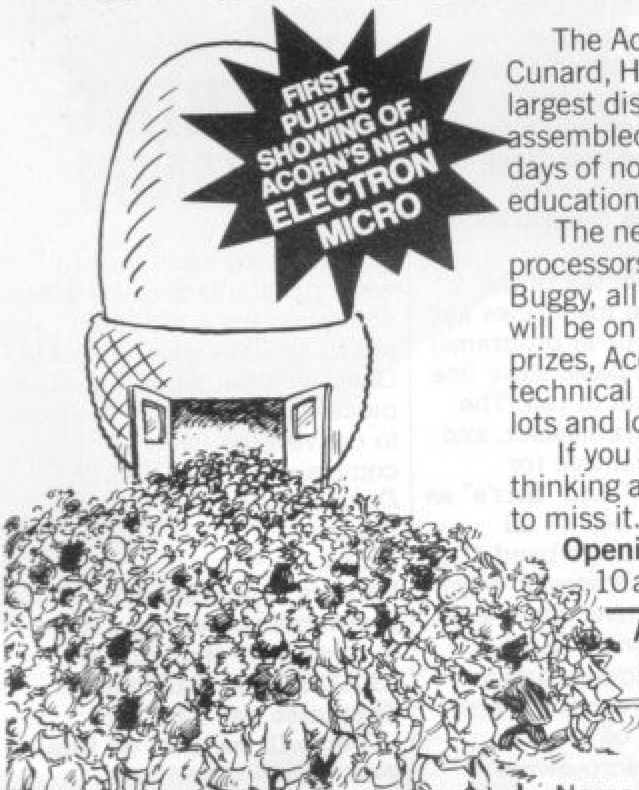
Whether you are an author, software house, dealer or distributor, Calisto Software can be of service to you. Contact us now. Ask for Pat or Mike.

Everything for the Acorn and BBC microcomputer user.

ACORN USER EXHIBITION

Cunard International Hotel

Hammersmith,
25-28 August 1983



The Acorn User Exhibition at the Cunard, Hammersmith will house the largest display of Acorn products ever assembled under one roof. It will be four days of non-stop entertainment and education for parents and children alike.

The new Electron, the second processors for the BBC micro, the BBC Buggy, all the new software and hardware will be on show. There'll be competitions, prizes, Acorn experts to answer your technical questions, demonstrations and lots and lots of bargains.

If you are an Acorn owner, or just thinking about being one, you can't afford to miss it.

Opening hours: August 25th-27th, 10am-7 pm; August 28th, 10am-4 pm.

Admission charges: Adults £2 per ticket, Children £1 per ticket.

We have arranged for nearly every exhibitor to redeem the cost of your ticket when you buy something from their stand.

Group rates: 10% discount for parties of 10 or more.

Buses: Frequent services from central London.

Tubes: Hammersmith Broadway – Metropolitan, District and Piccadilly lines.

Car Parking: Several car parks in the immediate area.

For details of exhibition stands and advance ticket sales contact Computer Marketplace Ltd, 20 Orange Street, London WC2H 7ED. Tel: 01-930 1612.

ADVANCE BOOKING COUPON Miss the queue – buy your tickets in advance.
Computer Marketplace Ltd, 20 Orange Street, London WC2H 7ED.
Please send ______ Adult tickets at £2 ______ Childrens tickets at £1
I enclose a cheque/postal order value £ ______ payable to Computer Marketplace Ltd.
Name ______
Address ______

C&VG/8



MAILBAG



LONG LIVE THE PET

Dear Sir,
Is my Pet dead? I was introduced to computers about a year ago, and was fortunate to obtain a small keyboard 2001/8k Pet at a resonable price, on which to start. Up to that time there was a wealth of useful programs for the Pet in the magazines on the market.

With increased experience I now need more memory and would like to upgrade the ROM's. Correspondence with Commodore for help only produced an unsatisfactory reply after several letters and months, and the Commodore agents I contacted only wanted to upgrade as part of an expensive service, or sell me a Vic.

The Pet Users Club provided the most beneficial advice and consequently I have now installed one of Audio Computers' excellent 32k expansion RAM's but the ROM problem still remains.

The point of the letter is to ask in the light of CBM's general unhelpfulness, if the Pet has finally reached the end of its life.

It is also interesting to note that most magazines, including yours, now have very little of any consequence to offer for the Pet, we seem inundated with offerings for the Vic and ZX81!

In conclusion, I shall like to thank you for refreshing approach to computer programming in your articles, mainly 'Practical Programming', and 'Graphics'.
J. Wyatt,
March,
Cambridgeshire.

Editor's reply: The Pet, in its original form is most certainly 'dead' and has been for some years. It has, however, produced a number of offspring — the Vic, Commodore 64 etc. The model you have is difficult to upgrade to Basic 2.0 or Basic 4.0 and further discussion with the Pet Users Club should point you in the direction of other members who have overcome the problem.

As for the lack of software . . . the Pet was really developed as an engineering/commercial/educational machine and so few games have recently been published as its derivatives do so much better. There is nothing to stop you converting Vic games into Pet ones.

CRACKING THE CODE

Dear Sir,
I own a ZX Spectrum and I am having a problem with saving writing and loading. I think it would be a good idea if readers who can successfully save, verify and load volumes could tell your readers the volume settings they use on their cassette recorders when carrying out these functions. It would also help if they tell us the make of recorder they use.

My own recorder is a Waltham W104MIA.
Nick Morgan,
Wolverhampton,
West Midlands.

Editor's reply: The Waltham cassette recorder is a fairly cheap model and is not really recommended for the Spectrum. Even similar models give different results — so your idea is not really on. We suggest that anybody buying a cassette recorder for *any* computer tries it out before paying for it!

KONG'S ODD BEHAVIOUR

Dear Sir,
I am writing on behalf of all the Donkey Kong players in Eastbourne, we have about four or five Donkey Kong machines in various arcades and pubs in Eastbourne, but every one appears to be faulty.

My present high score is 428,300 which I achieved several months ago and which you printed in your magazine, I achieved this score and had two lives left when the machine went faulty. Since then I have not found a single machine in or outside Eastbourne which will go above that score.

I know that some machines in the USA go up to 800,000 but they have a different type of machine.

I have also found other variations on the game in France and Spain in which extra gaps have been left in the beams so that Mario has to jump holes as well as barrels. Also in some versions (on the pie screen) Kong rolls around on skates and, on the plug screen, if you touch Kong you die. On others you can run behind Kong or in front.

On all of the different machines I have played on they all seem to go wrong as



I have explained. This is a great pity as I can now reach 400,000 with only one life then the machine goes wrong and I lose the other three lives. I am sure that if I played on a working machine I could attain a much higher score. Have any of your other readers experienced this?
J. Bull,
Eastbourne,
East Sussex.

PROCESSING VIDEO GAMES

Dear Sir,
Could you please advise me whether there are any video game programmes that are compatible to use with Spellbinder word processor.
Miss J. E. Ogilvie,
Ipswich,
Suffolk.

Editor's reply: Most word processors are not able to handle games. However, yours seems to be able to use Basic. What any game needs though, are decent graphics so it would be highly unlikely that any games are available.

DEFENDING THE ATARI

Dear Sir,
I felt I must write and voice my disagreement with a number of points raised in your May issue. First, I disagree that the standard of Atari games published is particularly high.

Secondly, Mr D. A. Johnson, I believe from an interested friend that T.I. sprites are only available if the extended Basic cartridge is bought.

Lastly, your Atari Defender reviewer cannot be an Atari owner. Put Preppie, Protector, Galactic Chase and 250 other games up against Acornsoft — the only real quality Beeb games — and Atari would win every time.
Marc Freebury,
Reading,
Berks.

NEW IDEAS, NEW GAMES

Dear Sir,
I have an idea for what I believe to be an original video game for home or maybe arcade use. However, my knowledge of programming is insufficient to enable me to produce more than an outline. Could you please tell me:

Which manufacturers might be interested and how might they be best approached? What detail would be required? How can I best protect my interests?
A. F. Hackett
Cramlington,
Northumberland.

Editor's reply: The best way to locate a manufacturer/distributor of games is to look through, say, *C&VG* and find who seems to be marketing the best range for your machine. Just write a letter and say what you have. Do not send anything.

Outline the game and ask for details of any legal agreements they may use. Any reputable company has these things sewn up.

Your interests could best be looked after by going to a lawyer, and let him have a look through any agreement. Say 10% of any sales, or some money up front and a lower royalty.

COMPETITION COMPETITION COMPETI

YOUR NEW PROGRAM COULD WIN YOU £5,000!

Put a special effort into your next program — it could be worth £5,000.

There's £5,000 in good honest cash going to the winner of our August competition to find Britain's brightest programming talents.

The prize comes from Calisto Software of Birmingham which is keen to expand the number of machines it covers and use home-grown programmers rather than ship in games from the US.

Calisto's Mike Woodroffe believes it takes three months to write a good games program and that's what you've got. If you're starting from scratch, your program must be finished by October 16th.

If you are going to polish up one of your previous efforts, then why not send it quickly and get started on another program. You can enter as many programs as you like as long as each comes with an entry form cut from the magazine — and we'll have more forms in our September and October issues.

But there's a chance for everyone to be a winner in this competition as Calisto will be giving out software contracts to the designers of games they want to market.

So even if you don't end up £5,000 richer straight away, you could still find the royalties rolling in if you become part of Calisto's team of software writers.

You can enter on any popular microcomputer and all cassettes will be tested by Calisto's team of judges. If your offering is picked as the winner, you'll be presented with a cheque for £5,000 at the brand new home computing show Brainwave '83 in the NEC Birmingham in the first week of November.

To enter, simply fill in the form below and attach it to a cassette of the game. Make sure you fill in all the details about yourself and your game on the form.

If the game instructions are not included on the cassette itself, then add them on a separate piece of paper but please ensure that your name and address are included on every part of your entry.

Perhaps you are a keen programmer who has not yet turned his hand to games, then you can enter any kind of program and Calisto will test it out.

The winner will be the reader who comes up with the best commercial program, and Calisto will also pay royalties on all copies sold. Remember all published entries will be given a software contract, possibly worth a lot of money.

The judging time is limited so get your entry in as quickly as possible but be sure that your program is properly polished first, to give yourself a good chance of coming away £5,000 richer.

The entries must be sent to: £5,000 Program, Calisto Software, 119 John Bright Street, Birmingham B1 1BE.

Please enter this program in the £5,000 program competition

Program name: ....

Machine: .... **Model:** ....

Number of K needed to run it: .... **K**

Other equipment needed to run it: ....

Author's name: ....

Address: ....

....

....

Telephone No: ....

All entries will be the property of Calisto Software and the entrants will assign all rights, patents and privileges of their game to Calisto.

No employees of *Computer & Video Games*, Calisto, or their relatives, will be eligible to enter the competition.

All entries must be sent in with an original coupon from *Computer & Video Games* — NOT A COPY. The judge's decision is final and no correspondence can be entered into.

You can enter any number of programs as long as each is sent in with a form from *Computer & Video Games*. Winners will be notified before October 30th.

VOTE FOR THE GOLD STICKS

Do you have a favourite game that is worth its weight in gold? Or a software company you would like to reward for its high standards and prompt service?

Here at *C&VG*, we decided that the best of British software houses deserved the chance to win some recognition after a hard and competitive year which has seen games programming standards rising fast.

We are sponsoring five Golden Joystick Awards which we hope will become the UK Oscars of games programming.

This is your chance to nominate a company which has given good service or earn recognition for the game which has given the most pleasure in the last nine months (since November 1982).

Our five categories are:

- Best Arcade-style Game, which goes to the cassette or cartridge which proves itself the most addictive and thrilling.
- Best Strategy Game, is the title bestowed on the finest cassette or cartridge to test the mind rather than the trigger finger — like a favourite adventure.
- Best Original Game Idea goes to a company which has come up with a game of a completely new type, unlike any board, arcade or computer game seen before.
- Software House of the Year goes to the company which has earned the best reputation for quality games, good service and entertaining advertising.

COMPETITION COMPETITION COMPETI

● Game of the Year is the most coveted Golden Joystick of all, awarded to the game which most impresses the judges in 83.

This game must first have won one of the previous games categories and where that has happened the second-place cassette is promoted to take that title.

Initially we are leaving the judging up to you and want you to tell us your nominations in any or all of the categories.

Just pick out your favourite games and fill in the form below.

The title Software House of the Year is open to distributors of overseas software, but for the rest, we are looking for British-based games programmers.

Cut out the form below and make your vote for gaming quality count. Send it to:

The Golden Joysticks, *Computer & Video Games,* Durrant House, Herbal Hill, London EC1R 5JB.

Please accept the following nominations for the Golden Joystick Awards.

(BLOCK CAPITALS PLEASE)

1) Best Arcade Type Game: ....

By (Software house): ....

2) Best Strategy Game: ....

By: ....

3) Best Original Game: ....

By: ....

4) Software House of the Year: ....

5) Game of the Year: ....

By: ....

Name: ....

Address: ....

....

NAME	CHARACTER TYPE	SCORE	WORLDS	FLEETS	SHIPS	ARTIFACTS	= BONUS
ARKRAI	COLLECTOR	2490	16	11	124	16	0
CAPPEL	EMPIRE-BUILDER	1814	19	13	73	7	0
CATRIQ	COLLECTOR	1740	16	18	129	11	0
AUSTIN	PIRATE	1562	9	15	31	2	0
ITEMIZ	COLLECTOR	1500	16	14	82	8	0
THEOCR	APOSTLE	1330	23	19	137	6	0
ARACHN	EMPIRE-BUILDER	1144	12	16	93	1	0
BUSHCT	PIRATE	1142	14	9	55	7	0
SICAIR	APOSTLE	899	12	14	108	8	0
COTELL	APOSTLE	812	11	12	33	2	0
BINGAR	BERSERKER	488	20	14	50	9	0
GZINTI	BERSERKER	262	12	11	89	6	0
THEDOK	MERCHANT	208	11	15	104	6	0
KSIFF	MERCHANT	160	13	9	55	6	0
MEGALA	BERSERKER	111	13	14	60	2	0

VICTORY POINT LIMIT = 2,400 (MAX 10,000)

DID YOU TANGLE WITH THE STARWEB?—THEN READ ON

Our Starweb game is now over — but we hope that all of our readers who took part enjoyed the experience. Here's a message from one of the people who joined in, Mark Woolrich, and a rundown of the final positions.

"Overall Starweb has been an excellent game, becoming at times a time consuming hobby whilst still retaining the ability to be played quickly and with little thought should you find yourself busy with other things.

One of Starweb's best features is the interaction with "red" players, (rather than semi-predictable "computer" players), in whom you could find all the better and worse traits of human nature and who give the game a complexity impossible to get from the computer alone.

However, the game was not without its frustrations, the main one being the fate of all things of a lettery nature that are foolishly allowed to fall into the hands of the Post Office.

One thing though, that is a fault of the game is the obvious imbalance between character types. You can see at a glance from the score sheet the types that the game favours.

Us poor Berserkers must be the result of a Xenophobic game designer, and as for the Merchants, their wealth presumably relies upon trust and goodwill both of which are notably lacking in a game where there's only one winner. In the Starweb rule book there is a hint that a handicapping system might be introduced, but when?

Finally, although I'm full of ideas on how to conduct my next game of Starweb as a result of my experience, I'm afraid the cost is too much at £30 or more per game.

However, I'd love to play Starweb again and again until I found a way for the poor underdog Berserker to come out on top. And after that I'd have a go at the Merchant type. Life's no fun without a struggle."

Mark Woolrich,
Formerly Gzinti Fleet Controller

spectrum

NEWS
from SPECTRUM

IKON
HOBBIT FLOPPY TAPE DRIVE for the BBC Micro

Because there is a shortage of BBC Disk Drive up-grade kits, we have been able to secure a supply of IKON FLOPPY TAPE DRIVES for the BBC micro, which is an ideal alternative - see our ad for details.

ZX SPECTRUM

We have a large range of add-on goodies for the ZX SPECTRUM - see our ad you'll be amazed!

SOFTWARE

See our super range of SOFTWARE from top American & British companies

NEW SPECTRUM MEMBERS

Check our address page! - there are many new **SPECTRUM** dealers throughout the UK so there's a good chance there'll be a **SPECTRUM** centre near you.

PRESTEL

See PRESTEL Page 600181 for up to date information from SPECTRUM

AFTER SALES CARE

SPECTRUM service centres will ensure that should your machine 'go down' **we will get it running again as quickly as possible.** We also offer **extended warranties** at reasonable prices too! - ask your **SPECTRUM HOME COMPUTER CENTRE** for full details.

COMPUTER DEALERS

The **SPECTRUM** dealer list is virtually closed. If your area is free and you'd like to join the waiting list, please write to **MIKE STERN, Spectrum (U.K.) Ltd, Burrowfields, Welwyn Garden City, Herts.**

Just arriving - the new
LYNX 96K



More power! More features!

Now from **SPECTRUM** - the new **LYNX 96K** offering **more workspace for ambitious programs.** The most important feature of the 96K machine is its **additional memory.** In full high resolution colour, it provides **37.5K of RAM directly accessible in Basic** - with up to **24K more** available to programs using machine code. The **extra memory** of the 96K machine helps you make the most of the **outstanding features** it shares with the **48K Lynx: remarkably high resolution graphics** and the **highly praised Lynx Basic** with its **built-in machine-code monitor.** Additional ROM features on the **LYNX 96K** include drivers for both **parallel** and **serial printers,** and a range of **preformatted sound effects.** Ask to see the **super new LYNX 96K at SPECTRUM - NOW!**

SPECTRUM PRICE

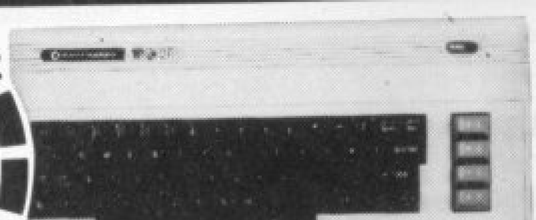
£299.00

LYNX 48K Model -SPECTRUM PRICE £225

For the 48K Lynx owners who're ready to take the next step, the 48K machine can be upgraded to full 96K specification for just £89.95

Commodore
VIC-20 Package Deal

HURRY! Last few only left



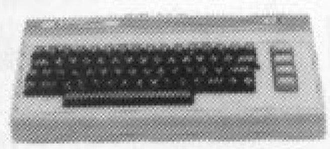
Sensational Value ONLY

A **complete Home Computer system** including the **VIC-20 Computer,** a **Cassette Unit, introduction to BASIC part 1** - a simple explanation of computer programing. **A tape of four computer programs - Blitz, Type-A-Tune, Race & Hoppit.**

A fantastic deal!! and **great value-for-money** check it out at your local **SPECTRUM** dealer **NOW! But HURRY!** this is a **limited offer** only while **stocks last.**

£139.99

COMMODORE 64



Powerful 64K RAM
40-colour displays to monitor TV. High resolution graphics and 3-dimensional effect capability, music synthesiser. Z80 additional processor option.

Spectrum Price

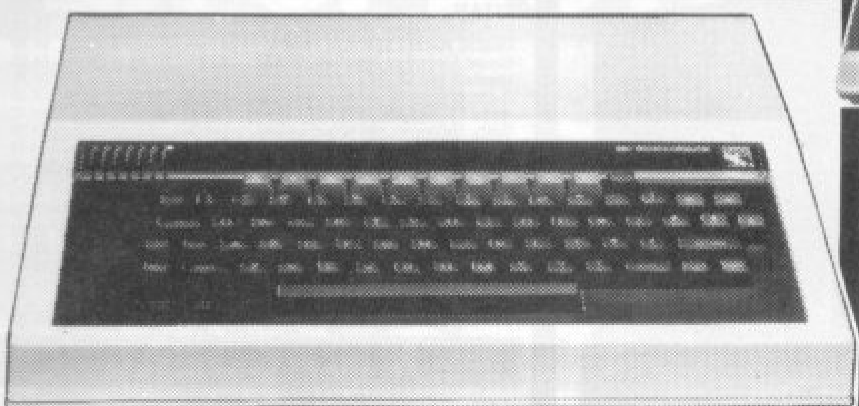
£345.00

Package Deal offer does not apply to Commodore 64 Model

TURN THE PAGE FOR MORE SUPER OFFERS FROM SPECTRUM

SPECTRUM

BBC Model 'B' MICRO



Yes, this **top selling Micro system** is now available from your local **SPECTRUM** dealer - the **BBC Model'B'** offering **32K RAM** plus a **full back-up** of **peripherals & software** too! It's an **infinitely expandable** machine, ideal for the **home or business** and is already widely used for **educational purposes in schools** - so the chances are **your** children may already be **well familiar with its operation**, which must make it the **ideal choice** for the **home** too!

SPECTRUM PRICE

£399.00 INC. VAT

BBC Single Disk Drive 100K £265.00
BBC Dual Disk Drive 800K £803.85
BBC Tape Recorder £29.90
Acorn Software Cassette based from £9.95
Acorn Disk based sotware £11.50
BBC cassette based software from £9.95

Please note! We regret that there is a shortage on all BBC equipment - please phone you nearest store before making a journey to check stock position.

Now available

IKON FLOPPY TAPE DRIVE
for the BBC The ideal alternative!
Spectrum Price **£155.25**

QUICK SHOT JOYSTICK
Especially for the BBC
Spectrum Price £19.95

The Super COLOUR GENIE



A truly reliable micro and highly recommended by **SPECTRUM** featuring powerful and sophisticated **COLOUR GRAPHICS**, allowing you to create **full 8-colour Games**, Diagrams and charts quickly and simply. **Powerful 16K RAM** memory (expandable internally to 32K) for **FULL COLOUR** video games and **POWERFUL COMPUTING** with a full range of **inexpensive accessories:** 16K RAM pack, Joysticks for TV games, Light Pen, Disk Drive and a Printer. The superb **Colour Genie** is at **SPECTRUM** now - check it out and see the **Genius** at **work!**

SPECTRUM PRICE

£194.00

COLOUR GENIE ACCESSORIES

Joysticks	£49.49
16K RAM	£38.50
Printer Interface	£39.95
VISCOUNT Teach yourself Colour Genie Basic	£6.95

ORIC-1



Special OFFER!
FREE!
4 programs with every ORIC-1 48K purchased.

- Multigames
- ORIC Flight
- Chess
- Zodiac

A superbly designed and engineered micro and great value-for-money from **SPECTRUM.** Offering **48K RAM Colour** - (8 foreground and 8 background can be displayed at the same time) **High resolution graphics User definable Graphics. Full sound** (6 octaves of controllable sound) **Easy to use keyboard with moving keys. Standard Centronics parallel interface allows** easy connection to a wide range of printers etc.

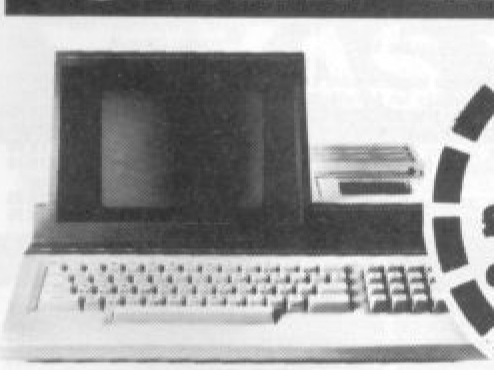
Spectrum Price ONLY £169.95

SPECTRUM FACTS

Maximum user RAM	47,870 Bytes
Text Screen	28x40
High Resolution	240x200
Cassette Lead	Included

Now available: P.A.S.E. joystick interface for ORIC-1 **£14.95**

SHARP MZ-80A



FREE! £75 WORTH of software with every MZ80A purchased

Desk top genius! the all-in-one **SHARP MZ-80A.** Ready to run the moment you get it home. **Built-in keyboard. CRT 9" display** and **cassette data storage** with **48K RAM.** The BASIC with extra useful additions, offers quite a powerful micro for the **home or business** ■ 4K Byte ROM 48K Byte RAM - 2K Byte Video RAM ■ ASC11 profiled keyboard - numeric pad ■ 2 Page Video RAM allows screen to be scrolled up or down. ■ CP/M available.

£546.25

Floppy Disks and Accessories for MZ-80A

Twin Floppy Disk Unit (inc. 1/0 Card, Disk, Cable)	£856.75
Twin Disk Unit (only)	£678.50
Single Floppy Disk Unit	£460.00
Cable for F/D Drive	£29.79

Printers and Accessories for MZ-80A, MZ-80B & MZ-80K

80 Col Tractor Feed Printer inc. Cable, 1/0 Card & Rom	£477.25

PRINTERS



EPSON	
Model FX-80	£503.70
Model RX-80	£332.35
SEIKOSHA	
GP-100A	£229.94
GP-100VC	£247.25
SMITH CORONA	
Model TP-1A	£431.25
OKI MICROLINE	
Model 80	£259.90
Model 82A	£455.40
Model 92P	£585.35

All prices include VAT

MONITORS



SANYO CDD 3125NB
Colour Monitor
£286.35

SANYO 12"
Green Monitor
£113.85
All prices inc. VAT

THE PLUG

Ever had your micro crash on you when you were in the middle of a complex program because some other electrical appliance was switched on and caused a power fluctuation? THE PLUG is designed especially to overcome this problem.

only **£14.95**

ALL PRICES INCLUDE VAT

Not all stores carry every advertised item, please phone before making a journey — Prices correct at time of going to press E. & O.E.

SOFTWARE

THE TOP SELLERS from SOFTSEL®

American games for the U.K. market from leading American software houses

ATARI
Donkey Kong Atari (Cart) £41.70
Dig Dug Atari (Cart) £30.00
AVALON HILL
Computer Stocks & Bonds Com 64 (Cass) £16.56
Midway Campaign Com 64 (Cass) £16.56
Telengard Atari (Disk) £23.18
BRODERBUND
Choplifter Atari (Disk) £28.93
Apple Panic Atari (Disk) £24.79
AE Atari (Disk) £28.93
Seafox Atari (Disk) £24.79
Bank Street Writer Atari (Disk) £56.31
BIG FIVE SOFTWARE
Miner 2049er Atari (Cart) £41.70
DATASOFT
Zaxxon Atari (Disk) £33.07
EDUCATIONAL SOFTWARE
Tricky Tutorials 1 to 6 Atari (Disk) £96.97 (For the 6)
EPYX/AUTOMATED SIMULATIONS
Jump Man Com 64 (Disk) £33.07
Temple of Apshai Atari/Vic 20 (Disk) £33.07
HEYDEN
Sargon 2 Atari (Disk) £28.93
Cass £24.79
HUMAN ENGINEERED SOFTWARE
Turtle Graphics Com 64 (Cart) £49.15
Vic 20 (Cart) £32.75
Heswriter Com 64 (Cart) £36.85
Vic 20 (Cart) £32.75
Predator Vic 20 (Cart) £33.35
CoCo II Com 64 (Disk) £33.07
Vic 20 (Disk) £33.07
Simon Vic 20 (Cass) £13.20
Torg Vic 20 (Cass) £14.85
6502 Professional Development System
Com 64 (Cass) £24.11
Vic 20 (Cass) £24.11

INFOCOM
Zork 1, 2 & 3 Atari (Disk) £33.07
Com 64 (Disk) £33.07 (each game)
Deadline Atari (Disk) £41.35
Suspended Com 64 (Disk) £41.35
THE MUSE SOFTWARE
Castle Wolfenstein Atari (Disk) £22.97
LIGHTNING SOFTWARE
Master Type Atari (Disk) £32.16
MIS
Vic Vango Vic 20 (Cass) £10.71
Fruit Fly Vic 20 (Cass) £10.71
PROGRAM DESIGN
Pre-school IQ Builder Atari (Disk) £19.28
Cass £13.77
ROCKLAN
Wizard of Wor Atari (Disk) £33.07
Cart £37.52
SIERRA ON-LINE
Frogger Atari (Disk) £27.27
Com 64 (Disk) £28.93
Ultima II Atari (Disk) £49.63
Crossfire Vic 20 (Cass) £24.79
SIRIUS SOFTWARE
Repton Atari (Disk) £30.64
Com 64 (Disk) £33.07
Fast Eddy Com 64 (Disk) £28.93
Vic 20 (Cart) £33.35
Squish'em Com 64 (Disk) £28.93
Type Attack Vic 20 (Cart) £33.35
Turmoil Vic 20 (Cart) £33.35
SPINNAKER
Story Machine Atari (Disk) £28.14
Rhymes & Riddles Atari (Disk) £24.11
Snooper Troops Atari (Disk) £36.19
Hey Diddle Diddle Atari (Disk) £24.11
In search of the Most Amazing Thing Atari (Disk) £32.16



The TOP 50 from MICRO DEALER UK





The best of British software from leading British software houses

SOFTWARE HOUSE — TITLE

(A) ZX SPECTRUM
MELBOURNE HOUSE "TERROR-DAKTIL" £6.95
MELBOURNE HOUSE "PENETRATOR" £6.95
MELBOURNE HOUSE "THE HOBBIT" £14.95
QUICKSILVA "ASTRO BLASTER" £4.95
QUICKSILVA "TIMEGATE" £6.95
QUICKSILVA "MINED OUT" £4.95
QUICKSILVA "TRADER TRILOGY" £9.95
ARTIC COMPUTING "3-D COMBAT ZONE" £4.95
ARTIC COMPUTING "COSMIC DEBRIS" £4.95
ARTIC COMPUTING "QUADRACUBE" £4.95
IMAGINE "ARCADIA" £5.50
NEW GENERATION "KNOT IN 3-D" £5.95
NEW GENERATION "3-D TUNNEL" £5.95
HEWSON "HEATHROW A.T.C. £7.95
P.S.S. "MAZE DEATH RACE" £4.95
SOFTEK "THE SOFTEK COMPILER" £9.95
RICHARD SHEPHERD "TRANSYLVANIAN TOWER" £6.50
MICROGAME SIMULATION "BATTLE OF BRITAIN" £5.95
CP SOFTWARE "SUPERCHESS II" £7.95
ABBEX "E.T.X." £5.95
C.R.L. "TEST MATCH" £5.95
(B) ZX-81
QUICKSILVA "COSMIC GUERILLA" £3.95
QUICKSILVA "3-D BLACK STAR" £4.95
C.R.L. "HI-RES GRAPHICS TOOLKIT" £5.95
MARTECH GAMES "CONFLICT" (Specialist War Game) £11.95 (ZX-81 or ZX-SPECTRUM)
(C) COMMODORE VIC-20
LLAMASOFT "MATRIX" £6.00
LLAMASOFT "GRIDRUNNER" £6.00
LLAMASOFT "ANDES ATTACK" £8.00
QUICKSILVA "TORNADO" £5.95

SOFTWARE HOUSE — TITLE
IMAGINE "ARCADIA" £5.50
POSTERN "SHADOWFAX" £7.95
RABBIT "SCRAMBLE" £9.99
INTERCEPTOR MICROS "CRAZY KONG" £6.00
(D) COMMODORE 64
LLAMASOFT "MATRIX" £8.50
LLAMASOFT "GRIDRUNNER 64" £8.50
LLAMASOFT "ATTACK OF THE MUTANT CAMELS" £8.50
INTERCEPTOR MICROS "PANIC 64" £6.95
(E) ORIC-1
I.J.K. SOFTWARE "XENON-1" £8.50
I.J.K. SOFTWARE "3-D MAZE" £1.50
SALAMANDER "ORIC-TREK" £9.95
(F) DRAGON-32
QUICKSILVA "MINED OUT" £5.95
P.S.S. "DRAGBUG" £12.95
C.R.L. "St. GEORGE & THE DRAGON £6.95
C.R.L. "HANDICAP GOLF" £5.95
SALAMANDER "DRAGON TREK" £9.95
(G) B.B.C. (A&B)
I.J.K. SOFTWARE "STRATOBOMBER" £7.50
I.J.K. SOFTWARE "ATLANTIS" £7.50
QUICKSILVA "PROTECTOR" £7.95
QUICKSILVA "WIZARD" £6.95
QUICKSILVA "MUSIC PROCESSOR" £14.95
DIGITAL FANTASIA "ESCAPE FROM PULSAR 7" £8.95
DIGITAL FANTASIA "FEASIBILITY EXPERIMENT" £8.95

Compiled by Micro Dealer U.K., Distributors of fast-selling Micro Computer Software

Plus! THE BEST SELLERS from these top British Software houses

SUNSHINE
Cruising (Dragon 32) £6.95
Cruising (ZX Spectrum) £4.95
Blind Alley (ZX Spectrum) £4.95
Androids (ZX Spectrum) £5.95
Galaxy Attack (ZX Spectrum 48K) £5.95
Sword Fight (ZX Spectrum) £5.95

RABBIT

Cyclons - Commodore 64 £5.99
Escape MCP - Commodore 64 £5.99
Pakacuda - Commodore 64 £5.99
Paratrooper - Vic 20 £5.99
Annihilator - Commodore 64 £5.99
Pakacuda - Vic 20 £5.99
Race Fun - Vic 20 £5.99
Anti-Matter Splatter - Vic 20 £5.99
Cyclons - Vic 20 £5.99
The Catch - Vic 20 £5.99

TITAN

TITAN
Alien Swarm Spectrum 16/48K £5.95
Galactic Raiders Spectrum 16/48K £4.95
Ground Force Zero Spectrum 16/48K £4.95
Missile Panic Vic-20 3.5K £5.95
Roadrunner Vic-20 3.5K £4.95
Android Attack Vic-20 3.5K £4.95
Space Hopper Vic-20 3.5K £4.95
Mission 99 TI99/4A STD M/C £4.95

COMPUTER RENTALS

High Resolution (ZX-81) £5.95
Galactic Patrol (Spectrum 16K) £5.95
For Spectrum 48K:
Derby Day £5.95
Rescue £5.95
Jackpot £4.95
Testmatch £5.95
Handicap Golf £5.95
Alien Maze £5.95
3D Desert Patrol £4.95
St. George & the Dragon (Dragon 32) £6.95

MICRODEAL

DRAGON
The King £8.00
Space War £8.00
Defence £8.00
Alcatraz £8.00
Katerpillar Attack £8.00
Space Monopoly £8.00
Mansion Adventure £8.00

MIKROGEN

Mikrogen
Bomber (ZX81) £3.95
Scramble (ZX81) £3.95
Space Invaders (ZX81) £3.95
Frogs (ZX81) £3.95
ZX Chess (ZX81) £6.50
Masterchess (Spectrum) £6.95
Scramble (Spectrum) £5.95
Space Zombies (Spectrum) £5.95
Panic (Spectrum) £5.95
Mad Martha (Spectrum £6.95

BOOKS

GRANADA PERSONAL COMPUTING TITLES
The ZX Spectrum and how to get the most from it £5.95
The Spectrum Programmer £5.95
The Spectrum Book of Games £5.95
Introducing Spectrum Machine Code £7.95
The Apple II Programmer's Handbook £10.95
Programming with Graphics £5.95
The Dragon & how to make the most of it £5.95
Computing for the Hobbyist & small Business £6.95
Simple Interfacing Projects £6.95
The BBC Micro: An expert guide £6.95
Commodore 64 Computing £5.95
The Oric-1 and how to get the most from it £5.95
The Dragon 32 book of games £5.95
Computer Languages and their uses £5.95
Lynx Computing £6.95
21 Games for the BBC Micro £5.95
Choosing a Microcomputer £4.95
Databases for fun & profit £5.95
Introducing the BBC Micro £5.95
SUNSHINE
The Working Spectrum £5.95
Functional Forth for the BBC £5.95
The Working Dragon 32 £5.95
Dragon 32 Games Master £5.95
The Working Commodore 64 £5.95
Commodore 64 Machine Code Master £6.95
The Working Dragon £5.95
The Working Spectrum £5.95
The Working CBM 64 £5.95
Dragon 32 Games Master £5.95
Functional Forth for the B.B.C. £5.95
Androids for the 16K Spectrum £5.95
Sword Fight for 16K Spectrum £5.95
Galaxy Attack for 48K Spectrum £5.95
Blind Alley for 16K Spectrum £5.95
Cruising for 16K Spectrum £5.95
PRENTICE HALL
The Apple Personal Computer for Beginners £6.95
Atari Games and Recreation £12.70
BASIC Programming on the BBC Microcomputer £5.95
The ZX Spectrum - Your Personal Computer £5.95
Commodore 64 Programmer's Reference Guide £14.95
The PET Personal Computer for Beginners £5.95
VIC 20 Programmer's Reference Guide £9.95
Osborne User's Guide £12.70
The C Programming Language £16.95
Starting FORTH £15.25

ACCESSORIES

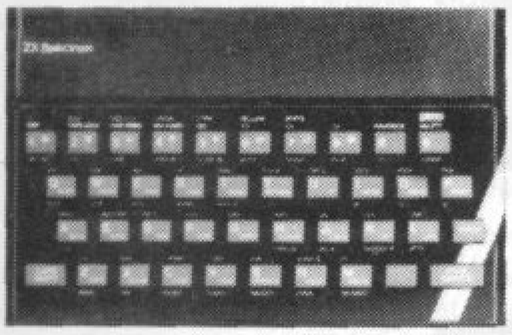
C12 DATA CASSETTES £0.50
C15 DATA CASSETTES £0.50
VISCOUNT SINGLE SIDED, DOUBLE DENSITY (10) (FOR APPLE, COMMODORE, ATARI, TANDY) £21.25
VISCOUNT SINGLE SIDED, SINGLE DENSITY (10) £21.25
VISCOUNT DOUBLE SIDED, DOUBLE DENSITY (10) (FOR SHARP SUPERBRAIN, ETC.) £33.81
VISCOUNT SINGLE SIDED DOUBLE DENSITY 96 TRACK (10) (FOR NASCOM, COMMODORE 8050, ETC.) £51.38
EMPTY DISK CASES (FOR 5¼" DISKETTES) £1.95
DISK HEAD CLEANER KIT £16.10
TELEVISIONS
12" T80 B&W PORTABLE £59.95
CTP3131 14" COLOUR PORTABLE £229.95

Viscount — Teach yourself BASIC cassette available for most popular micros - all £6.95

TURN THE PAGE FOR MORE SUPER OFFERS FROM SPECTRUM

spectrum

SINCLAIR ZX SPECTRUM



This top selling micro is now available from Spectrum in both **16K** and **48K RAM.**

SINCLAIR ZX SPECTRUM 16K	SINCLAIR ZX SPECTRUM 48K
£99.95	**£129.95**

Spectrum Computer Centres have no connection whatsoever with the ZX-Spectrum Computer manufactured by Sinclair Research Ltd.

Just look at this fantastic range of add-on goodies for the ZX Spectrum!

VISCOUNT 32K RAM PACK............ £39.95

SPECTRUM/TV SOUND UNIT Control sound of your ZX-Spectrum through volume control on T.V. only **£9.95**

Fuller
MASTER UNIT
Combines all the features of both ORATOR and the FULLER BOX at the amazingly low price of
ONLY **£54.95**

THE AMAZING FULLER BOX
Features: Programmable Sound, Joystick Controller, Cassette Interface, Beep Amplifier, Thro Buss, Volume Control
ONLY **£29.95**

ORATOR VOICE SYNTHESIS FOR ZX SPECTRUM
ONLY **£39.95**

Fuller
FD 42 KEY-BOARD FOR ZX81 SPECTRUM
ONLY **£29.95**

Fuller
16K RAM
ONLY
£24.95

Fuller
SPECTRUM SOUND AMPLIFIER
ONLY **£6.95**

DIGITAL TRACER
from RD Labs



SPECTRUM PRICE **£55.50**

ZX-81 ACCESSORIES

64K RAM Pack.... £54.95
16K RAM Pack.... £24.95
ZX Printer £39.95

ATARI 800



Fantastic! NEW LOW Price

Now this proven and tested machine has been upgraded to a massive **48K RAM** and its still at the amazing **LOW** price of**£299.95** from **SPECTRUM.** It's an ideal Home Micro for graphics, educational and personal finance etc. use it and it will take you from learning up to a small business use. You can add printers, program recorders, disk drives and more, to expand your micro as and when you want, to suit your needs. So if you're looking for a top of the line micro you must see the **ATARI 800** with **48K** at **SPECTRUM - NOW!**

NOW ONLY £299.95

ATARI 400
16K RAM
NOW ONLY
£149.95



Including FREE Programming Kit

Plus a wide range of other peripherals & software for ATARI from your local SPECTRUM dealer - See our SOFTWARE page!

DRAGON

Incredible Value-for-Money!



Extensive facilities include highly advanced colour graphics. Powerful standard 32K RAM (expandable to 64K Bytes). ● 9 Colour 5 resolution Display ● Extended Microsoft colour BASIC (as standard) ● Advanced sound with octaves -255 tones.

SPECTRUM FACTS

Maximum user RAM	29,679 Bytes
Text Screen	16 x 32
High resolution	256 x 192
Cassette Lead	Included
VISCOUNT Teach yourself Dragon Basic	£6.95

SPECTRUM PRICE ONLY £175.00

Plus a wide range of other peripherals & software for DRAGON from your local SPECTRUM dealer -See our SOFTWARE page!

TEXAS TI-99/4A



Yes, now from **SPECTRUM** the **fabulous TEXAS TI-99/4A** Home Micro for **only £149.95 plus! a super FREE!** offer too! Worth **£50.85** (which means you're effectively **only paying £99.10** for your **TEXAS TI-99/4A micro.) Hurry!** this is a limited offer only

Including **FREE!**
■ Pair of Joyicks ■ Beginners BASIC Tutor program
■ Connect Four program

worth **£50.85**

PLUS FREE!
■ SPEECH SYNTHESISER or a
■ TI CASSETTE RECORDER
each worth **£49.95**
When you buy any 6 Texas Software modules.
Please ask for details. Subject to availability

£149.95

HURRY! Limited Offer only - Ask for details

Spectrum Computer Centres have no connection whatsoever with the ZX-Spectrum Computer manufactured by Sinclair Research Ltd.

There's a Spectrum Centre near you . . .

AVON

BATH Software Plus, 12 York St. TEL: (0225) 61676
BRISTOL Brensal Computers Ltd., 24 Park Row. TEL: (0272) 294188
WESTON-SUPER-MARE K. & K. Computers, 32 Alfred St. TEL: TBA

BEDFORDSHIRE

BEDFORD Stanad Ltd., 115 Midland Rd. TEL: (0234) 49341
DUNSTABLE Dormans, 7-11 Broad Walk. TEL: (0582) 65515
LUTON Terry-More, 49 George St. TEL: (0582) 23391/2

BERKSHIRE

READING David Saunders Computer Centre, 8 Yield Hall Place. TEL: (0734) 580719

BUCKINGHAMSHIRE

CHESHAM Reed Photography & Computers, 113 High St. TEL: (0494) 783373
LEIGHTON BUZZARD The Computer Centre at Milton Keynes Music, 17 Bridge St. TEL: (0525) 382504, 376622
WINDSOR Wycombe Video, 44 King Edward Court. TEL: (07535) 67441

CAMBRIDGESHIRE

CAMBRIDGE K. P. Ltd., 12a Kings Parade. TEL: (0223) 68087
PETERBOROUGH Peterborough Communications, 91 Midland Rd. TEL: (0733) 41007

CHANNEL ISLANDS

GUERNSEY Grut's, 3-5 The Pollet, St. Peter Port. TEL: (0481) 24682
JERSEY Audio & Computer Centre, 7 Peter St. St. Helier. TEL: (0534) 74000

CHESHIRE

ALTRINCHAM Mr. Micro, 28 High St. TEL: TBA (Phone (061) 728 2282 for info.)
CREWE Microman, Unit 2, 128 Nantwich Rd. TEL: (0270) 216014
CHESTER Oakleaf Computers Ltd., 100 Boughton. TEL: (0244) 310099
MACCLESFIELD Camera & Computer Centre, 118 Mill St. TEL: (0625) 27468
NORTHWICH Camera & Computer Centre, 3 Town Sq. TEL: (0606) 45629
STOCKPORT Wilding Ltd., 1 Little Underbank. TEL: (061) 480 3435
WARRINGTON Wildings, 111 Bridge St. TEL: (0925) 38290
WILMSLOW Swift of Wilmslow, 4-6 St. Annes Parade. TEL: (0625) 526213

CLEVELAND

MIDDLESBROUGH McKenna & Brown, 190 Linthorpe Rd. TEL: (0642) 248345

CORNWALL

ST. AUSTELL A B & C Computers, Duchy House, 6 Lower Aylmer Sq. TEL: (0726) 64463

CUMBRIA

BARROW-IN-FURNESS Barrow Computer Centre, 96 Church St. TEL: (0229) 38353
CARLISLE The Computer Centre, 56-58 Lowther St. TEL: (0228) 27710
WHITEHAVEN P. D. Hendren, 15 King St. TEL: (0946) 2063

DERBYSHIRE

ALFRETON Gordon Harwood, 69/71 High St. TEL: (0773) 832078
DERBY C T Electronics, at Camera Thorpe, The Spot. TEL: (0332) 360456

DEVON

EXMOUTH Open Channel, 30 The Strand, TEL: (03952) 4408
PAIGNTON Devon Computers, 81 Upper Manor Rd. TEL: (0803) 526303

DURHAM

DARLINGTON McKenna & Brown, 102 Bondgate. TEL: (0325) 59744

ESSEX

BASILDON Godfrey's 28-32 East Walk, Town Centre. TEL: (0268) 289379
CHELMSFORD Maxton Hayman Ltd., 5 Broomfield Rd. TEL: (0245) 354595
ILFORD Prot Enterprises, 1 Centreway, High Rd. (next to Sainsburys) TEL: (01) 553 0144
LOUGHTON Micro & Movie Channel, 309 High Rd. TEL: (01) 508 1216
RAINHAM Microway Computers, 39 High St. TEL: (0634) 376702

GLOUCESTERSHIRE

GLOUCESTER The Model Shop, 79-81 Northgate St. TEL: (0452) 410693

HAMPSHIRE

ALDERSHOT David Saunders Computer 51 Station Rd. TEL: (0252) 20130
BASINGSTOKE Fisher's, 2-3 Market Place. TEL: (0256) 22079
PORTSMOUTH Computer Corner, 261 Commercial Rd. TEL: (0705) 833938
PORTSMOUTH Waterlooville G B Microland, 7 Queens Prde. TEL: (07014) 59911
SOUTHAMPTON R. J. Parker & Son Ltd. 11 Portsmouth Rd., Woolston. TEL: (0703) 434137/8
WINCHESTER Winchester Camera & Computer Centre, 75 Parchment St. TEL: (0962) 53982

HEREFORD

HEREFORD Melgray Hi-Tech Ltd., 49 Broad St. TEL: (0432) 275737

HERTFORDSHIRE

HATFIELD Microworld, 2 Crawford Rd. TEL: (07072) 64137
HEMEL HEMSTEAD Faxminster Ltd., Computer & Electrical Discount Centre, 25 Market Sq. TEL: (0442) 55044
HITCHIN Camera Arts (Micro Computer Division), 68a Hermitage Rd. TEL: (0462) 59285
POTTERS BAR The Computer Shop, 197 High St. TEL: (0707) 44417
ST. ALBANS (Herts) Clarks Computer Centre, 14/16 Holywell Hill. TEL: (0727) 52991
STEVENAGE D. J. Computers, 11 Town Sq. TEL: (0438) 65501
WATFORD SRS Microsystems Ltd., 94 The Parade, High St. TEL: (0923) 26602

HUMBERSIDE

GRIMSBY R. C. Johnson Ltd., 22 Friargate, Riverhead Centre. TEL: (0472) 42031

ISLE OF MAN

DOUGLAS T. H. Colebourn Ltd., 57-61 Victoria St. TEL: (0624) 3482 (Just Opening)

KENT

CANTERBURY Kent Micro Systems, Conquest House, 17 Palace St. TEL: (0227) 50200
SEVENOAKS Ernest Fielder Computers, Dorset St. TEL: (0732) 456800

LANCASHIRE

ACCRINGTON PV Computers, 38A Water St. TEL: (0254) 36521/32611
BURNLEY IMO Computer Centre, 39-43 Standish St., BB11 1AP. TEL: (0282) 54299
BURY (Lancs.) Micro-North, 7 Broad St. TEL: (061) 797 5764
OLDHAM Home & Business Computers Ltd., 54 Yorkshire St. TEL: (061) 633 1608
PRESTON Wilding's 49 Fishergate. TEL: (0772) 556250
ROCHDALE Home & Business Computers, 75 Yorkshire St. TEL: TBA

LEICESTERSHIRE

LEICESTER Youngs, 40/42 Belvoir St. TEL: (0533) 544774
MARKET HARBOROUGH Harborough Home Computers, 7 Church St. TEL: (0858) 63056

LINCOLNSHIRE

GRANTHAM Oakleaf Computers Ltd., 121 Dudley Rd. TEL: (0476) 76994/70281
LINCOLN MKD Computers, 24 Newlands. TEL: (0522) 25907

LONDON

E6 Percivals, 85 High St. North, East Ham. TEL: (01) 472 8941
E8 McGowans, 244 Graham Rd., Hackney. TEL: (01) 533 0935
EC2 Devron Computer Centre, 155 Moorgate. TEL: (01) 638 3339/1830
N14 Youngs Electronic t/a Fieldmaster, 19 The Broadway, The Bourne, Southgate. TEL: (01) 882 5579
N20 Castlehurst Ltd., 1291 High Rd. TEL: (01) 446 2280
NW4 DA Vinci Computer Store, 112 Brent St., Hendon. TEL: (01) 202 2272/3/4
NW9 Moviescope, 459 Kingsbury Rd. TEL: (01) 204 6352
SE1 Vic Odden's, 6 London Bdg Walk. TEL: (01) 403 1988
SE9 Square-Deal, 375 Footscray Rd., New Eltham. TEL: (01) 859 1516
SE15 Castlehurst Ltd., 152 Rye Lane, Peckham. TEL: (01) 639 2205
SW6 Chelsea Micros Ltd., 14 Jerden Place. TEL: (01) 385 8494
W1 Devron 4 Edgware Rd. TEL: (01) 724 2373
W1 Computers of Wigmore Street, 87 Wigmore St. TEL: (01) 486 0373
W1 Sonic Foto & Micro Center, 256 Tottenham Court Rd. TEL: (01) 580 5826
W3 Colormatic Computers, 44 High St., Acton. TEL: (01) 992 7611
W11 Electroleisure, 120 Notting Hill Gate. TEL: (01) 221 7029

MANCHESTER GREATER

MANCHESTER Lomax Ltd., 8 Exchange St., St. Ann's Sq. TEL: (061) 832 6167
SWINTON Mr. Micro Ltd., 69 Partington Lane. TEL: (061) 7282282 Open Friday until 8 p.m.
HYDE Pase, 213-215 Market St. TEL: (061) 366 5935
BOLTON Wilding Ltd., 23 Deansgate. TEL: (0204) 33512
ECCLES Home & Business Computers, 4 Northway, Eccles Precinct. TEL: (061) 707 2004
WIGAN Wilding Ltd., 11 Mesnes St. TEL: (0942) 44382

MERSEYSIDE

HESWALL Thornguard Computer Systems, 46 Pensby Rd. TEL: (051) 342 7516
LIVERPOOL Beaver Radio, 20-22 Whitechapple. TEL: (051) 709 9898
LIVERPOOL (Aintree) Hargreaves, 31/37 Warbreck Moor. TEL: (051) 525 1782
SOUTHPORT Central Computers, 575 Lord St. TEL: (0704) 31881
WIDNES Computer City, 78 Victoria Rd. TEL: (051) 420 3333

MIDDLESEX

EDGWARE Breaker 1-4, 130 High St. TEL: (01) 952 7488/8860
HARROW Camera Arts (Micro Computer Division, 24 St. Ann's Rd. TEL: (01) 427 5469
HAYES Chipstop, 1000 Uxbridge Rd. TEL: (01) 573 2511
TEDDINGTON Teddington Camera Centre, Broad St. TEL: (01) 977 4716

NORFOLK

NORWICH Sound Marketing, 52 St. Benedicts St. TEL: (0603) 667725
GT. YARMOUTH Tony Hood Electronic, 26a Market Gate Shopping Centre. TEL: (0493) 3143
THETFORD Thetford C B & Micros, 21 Guildhall St. TEL: (0842) 61645

NORTHANTS

NORTHAMPTON Basic Computers & Systems Ltd., 72 Kingsthorpe Hollow. TEL: (0604) 710740

NOTTINGHAMSHIRE

NOTTINGHAM Cameo Computers, 8/9/10 Trinity Walk. TEL: (0602) 42912
NOTTINGHAM Basic, 39-41 Trent Boulevard, West Bridgeford. TEL: (0602) 819713

NORTHERN IRELAND

BELFAST Arthur Hobson Ltd., 37 Gt. Victoria St. TEL: (0232) 246336
LONDONDERRY Foyle Computer Systems, 3 Bishop St. TEL: (0504) 68337

OXFORDSHIRE

ABINGDON Ivor Fields Computers, 21 Stert St. TEL: (0235) 21207
BANBURY Computer Plus, 2 Church Lane. TEL: (0295) 55890
OXFORD Ivor Fields, 7 St. Ebbes St. TEL: (0235) 21207

SCOTLAND

DUMFRIES Vennals, 71 English St. TEL: (0387) 4547
EDINBURGH The Silicon Centre, 6-7 Antigua St. TEL: (031) 557 4546
GLASGOW Victor Morris Ltd., 340 Argyle St. TEL: (041) 221 8958
HAMILTON Tom Dickson Computers, 8-12 Cadzow St. TEL: (0698) 283193
KILMARNOCK Vennals, 49 Foregate. TEL: (0563) 32175
KIRKCALDY Kirkcaldy Photographic Services, 254E High St., Fife. TEL: (0592) 204734
PETERHEAD North East Computers, 1-3 Ellis St. TEL: (0779) 79900
STIRLING R. Kilpatrick, 58 Port St. TEL: (0786) 5532

SHROPSHIRE

SHREWSBURY Computerama, 13 Castlegate. TEL: TBA

SOMERSET

TAUNTON Grays, 1 St. James St. TEL: (0823) 72986

STAFFORDSHIRE

STAFFORD, Computerama, 59 Forgate St. TEL: (0785) 41899
STOKE-ON-TRENT Computerama, 11 Market Sq., Arcade, Hanley. TEL: (0782) 268620

SUFFOLK

BURY ST. EDMUNDS Bury Computer Centre, 11 Guildhall St. TEL: (0284) 705772
IPSWICH Brainwave, 24 Crown St. TEL: (0473) 50965
LOWESTOFT John Wells, 44 London Rd., North. TEL: (0502) 3742

SURREY

CAMBERLEY Camera Arts (Micro Computer Division), 36 High St. TEL: (0276) 65848
CHERTSEY Chertsey Computer Centre, 1 Windsor St. TEL: (09328) 64663
CROYDON Cadcom Ltd., 96 Whitgift Centre (Next door to MacDonald's) TEL: (01) 686 8393
GUILDFORD The Model Shop, 23 Swan Lane. TEL: (00772) 0483 39115
HAZLEMERE Hazlemere Computers, 25 Junction Place, adj. Rex Cinema. TEL: (0428) 54428
NEW MALDEN Surrey Micro Systems, 31 High St. TEL: (01) 942 0478
WALLINGTON Surrey Micro Systems Ltd., 53 Woodcote Rd. TEL: (01) 647 5636
WOKING Harpers, 71/73 Commercial Way. TEL: (04862) 61061

SUSSEX

BRIGHTON Capricorn, 1 Queens Rd. TEL: (0273) 29634
LITTLEHAMPTON Alan Chase Ltd., 39 High St. TEL: (09064) 5674/4545

TYNE & WEAR

NEWCASTLE-ON-TYNE Newcastle Camera & Computer Mart, 16 Northumberland Ct. TEL: (0632) 327461

WALES

ABERYSTWYTH AberData at Galloways, 23 Pier St. TEL: (0970) 615522
CARDIFF Randall Cox, 18/22 High St. Arcade. TEL: (0222) 31960
NEWPORT (Gwent) Randall Cox, 118 Commercial St. TEL: (0633) 67378
PEMBROKE Randall Cox, 19 Main St. TEL: (064) 668 2876
PORT TALBOT Micro Gen, 6 Royal Buildings, Talbot Rd. TEL: (0639) 887730
WREXHAM T E Roberts, 26 King St. TEL: (0978) 364404/364527

WARWICKSHIRE

LEAMINGTON SPA IC Computers, 43 Russell St. TEL: (0926) 36244 (Opening Soon)
RUGBY The Rugby Micro Centre, 9-11 Regent St. TEL: (0788) 70522

WEST MIDLANDS

BIRMINGHAM Sherwoods, Gt. Western Arcade. TEL: (021) 236 7211
COVENTRY Coventry Micro Centre, 33 Far Gosford St. TEL: (0203) 58942
DUDLEY Central Computer Services, 35 Churchill Precinct. TEL: TBA
WEST BROMWICH Bell & Jones, 39 Queens Sq. TEL: (021) 553 0820

WORCESTER

WORCESTER David Waring Ltd., 1 Marmion House, High St. TEL: (0905) 27551

YORKSHIRE

BRADFORD Erricks Foto-Sonic House, Rawson Sq. TEL: (0274) 309266
HULL The Computer Centre (Humberside) Ltd., 26 Anlaby Rd. TEL: (0482) 26297
LEEDS Bass & Bligh, 4 Lower Briggate. TEL: (0532) 454451
SHEFFIELD Superior Systems Ltd., 178 West St. TEL: (0742) 755005
SKIPTON Look & See, 45 Belmont Bridge. TEL: 0756 60078
YORK York Computer Centre, 7 Stonegate Arcade. TEL: (0904) 641862

NEW SPECTRUM MEMBERS

Check **your area** there are many new **SPECTRUM** dealers throughout the **U.K.** So there's a good chance there'll be a **SPECTRUM** centre near you!

Not all stores carry every advertised item, please phone before making a journey — Prices correct at time of going to press E. & O.E.

GAMES NEWS

DIAMONDS ARE MARIO'S DOWNFALL!

KONG 64

Diamonds are a girl's best friend — until they stop her being rescued from the clutches of a well-known ape.

In Krazy Kong 64, Mad Mario is once again faced with the task of rescuing his starlet girlfriend. But this time, he not only has to dodge the bouncing barrels, he must also gather up her scattered diamonds.

Should he miss a diamond, Mario has the risky job of backtracking his steps to collect it, at the same time dodging the ever-present barrels, before he can move on to the next level. The remaining levels offer further challenges with various objects to be collected.

Krazy Kong 64 is a one-player game and you'll need a joystick. It is available from Hampshire-based Interceptor Micros and all leading retailers at £7.00.

Also available for the Commodore 64 from Interceptor Micros this month, are Star Trek, an interstellar adventure game, Spriteman, based on the original arcade game Pacman and Scramble, all retailing at £7.00.

SIXTEEN SCREENS OF DANGER!

MANIC MINER

Manic Miner is a sixteen screen climbing game for the Sinclair Spectrum due out shortly from Bug Byte software of Liverpool.

Based on the hit American game Miner 2049'er the idea of the game is to get your little character up to the final screen — climbing ladders — hopping on lifts and jumping onto platforms.

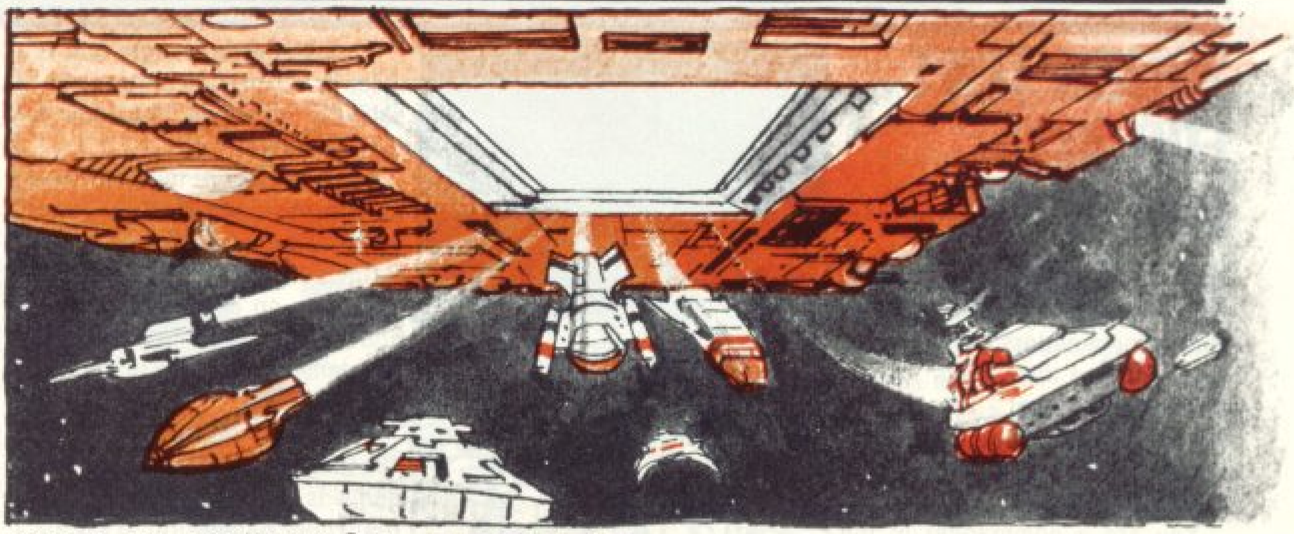
Various obstacles will have to be overcome if you are to successfully get your little man to the top.

Manic Miner will run on the 16 or 48k Spectrum and will be in the shops in July at £5.95.

The Liverpool-based firm have recently been celebrating their move to new premises at Canning Place beside the Mersey.

The new offices are a games programmers dream with an enormous room for computers — programers and the various tools of the software writers trade.

Above the programming department and offices is a computer tape duplicating plant which churns out all Bug Byte games.



ENJOY THE JET SET LIFE STYLE

DOMINIC

Fancy living the high life. Swanning around plush casinos in expensive clothing throwing away tens of thousands of pounds on a reckless gambling spree.

If the answer is yes, but Daddy doesn't own an oil well, then you may still be able to get a taste of the jet set with this latest game.

You are Dominic — a wheeler dealer tycoon who prefers grinding his opponents into bankruptcy on the roulette table in his spare time to putting his feet up in his luxury home.

Feel you can take on his personality for an afternoon on your Atari 400/800 — if so you'll need the latest cartridge from Bomb.

Two other titles in this new range of games from the former video games manufacturers are Funny Tadpcle and Indianapolys. The Tadpole game challenges you to save poor little lost Bobo from being swallowed by the big fish in the tank.

Indianapolys is a car racing game recreating the thrills and spills of the race track.

The games are imported into the UK by Pancom of Grimsby and sell for around the £15 mark.

ARCADE ALIENS INVADE!

GORF

That popular Bally Midway arcade game Gorf has now been licensed by Commodore and converted to cartridge for the Vic-20.

Four levels of attack are mounted on your laser base as you struggle to repel the Gorfian Empire's bid to take over Earth.

The first wave of attackers consist of Droid ships and UFO's controlled by a single Gorf from a safe distance. The purpose of this first attack is to test your defences.

The real battle begins on level two when a Gorf confronts you with Attack and Laser ships.

If you survive this level the Gorfs will know that they've got a fight on their hands and will send their toughest pilots — the Space Warp Fighters into the fray. They attack in spiral formation and are armed with torpedoes which track your ship with deadly precision.

The final conflict takes place when you confront the Gorfian Flagship. Only the most skilled pilots should apply for this mission as you will have to blast your way through a force-field and then launch a prolonged attack on the ship itself. It requires several direct hits on the Gorfian flagship to eliminate it.

At the end of the mission you will be given a rank based on your performance. Six grades are awarded from Space Cadet to Space Avenger.

Sign on for this challenge at your local Commodore stockist. You will need a Vic-20 and £24.95 to join the good fight.

Three other new games carts are launched this month from Commodore for the Vic-20.

Cosmic Jailbreak casts you as the keeper of the Cosmic Jail. Stop the bad guys from all over the universe making a bid for freedom.

More crime in Money Wars. This time you play the crook trying to get away the loot.

Menagerie provides your chance to be a flea for an afteroon. Guide the tiny microbe on a perilous journey through a spider swamp, desert, and on to the mystical wall — hitching rides on other animals as you go.

Money Wars, Menagerie, and Cosmic Jailbreak are available now at £19.95.

TREASURE HUNT IN THE DEEP

SHARK

Shark Treasure is one of the new batch of games from Dragon Data for this new machine.

The idea of the game is to get your diver safely down to the ocean bed pick, up the treasure scattered over the sea floor and get it to the surface without being devoured by the killer sharks which patrol the wreck.

Also new this month is a chopper rescue style game entitled Whirlybird Run. You have to rescue the hostages whilst avoiding the attack of jet fighters and ground tanks.

The games are due out in July and will be available from Dragon dealers at around £10.

GAMES NEWS

TOUGH TEST FOR ALL SPACE ACES

XENON

Fleet Commanders everywhere must prepare their pilots for the toughest test yet. The Aards, Pararatrons and the Zorgon Battle Star are massing on the outer reaches of Radon.

You are a commander in the Xenon Space Academy an organisation which protects affiliated planets from attack by pirates from other galaxies. The survival of Radon rests with your fleet.



The aliens attack in three waves — the Aards have the power to clone on destruction, defying your fleet to wipe them out for good and all.

Survive this onslaught and you must fly on through meteorites — skillfully refuelling until you arrive on Radon.

Once you have touched down on the besieged planet you will soon be attacked by the Zorgon Battle Star. This final challenge will draw on all your knowledge and skill acquired at the Academy if you are to repel its attack.

Xenon is a shoot 'em up for the 48k Oric from I.J.K. Software. The game is available now from the Blackpool based firm at £8.50.

Also new from IJK for the Oric is a two game cassette with 3D Maze and Breakout on it for £7.50. Candyfloss and Hangman are also available at £7.50 — both for the 48k machine.

C & VG's COMPUTER GAMES TOP TEN

ZX81

1. Flight Simulation (Psion)
2. 3D Monster Maze (New Generation)
3. Chess (Psion)
4. Space Raiders (Psion)
5. QS Scramble (Quicksilva)
6. Galaxians (Artic)
7. Alien Dropout (Silversoft)
8. Avenger (Abacus)
9. 10 games for 1K (J. K. Greye)
10. Night Gunner (Digital Integration)

Vic-20

1. Arcadia (Imagine)
2. Panic (Bug Byte)
3. Wacky Waiters (Imagine)
4. Cosmiads (Bug Byte)
5. Catch Snatcha (Imagine)
6. Asteroids (Bug Byte)
7. Golf (Commodore)
8. Amok (Audiogenic)
9. Alien Blitz (Audiogenic)
10. Choplifter (Creative Software)

Sinclair Spectrum

1. Flight Simulation (Psion)
2. Jet pac (Ultimate)
3. Penetrator (Melbourne House)
4. Horace goes Ski-ing (Psion)
5. Acardia (Imagine)
6. Transylvanian Tower (Richard Shepherd Software)
7. Ah, Diddums! (Imagine)
8. Hungry Horace (Psion)
9. The Hobbit (Melbourne House)
10. Space Raider (Psion)

Atari 400/800

1. Qix (Atari)
2. Galaxians (Atari)
3. Defender (Atari)
4. Zaxxon (Data Soft)
5. Pac-Man (Atari)
6. Star Raiders (Atari)
7. Miner 2049'er (Big Five)
8. Centipede (Atari)
9. Missile Command (Atari)
10. Space Invaders (Atari)

SWEET TOOTH IS AN ANT'S DOWNFALL

ROMOX

Ant-Eaters are a viscious breed of preditors sniffing out their prey with that sinister long snout.

The same snouts will be sniffing out Atari owners to play this latest game cartridge from Romox.

You take the part of an ant trying to dig your way to the surface to pick up sugar lumps and take them back to your lair.

The ant-eater marches up and down on the surface. As soon as you break the surface it can pursue you down the tunnels which you have already created in your bid to get the sugar lumps.

Ant Eater is based on the popular arcade game Dig Dug and should provide stiff competition for the official Atari Dig Dug which will go on sale next month.

On the first screen you face just one eater but these increase one by one as you move up through the screens until there are three of them pursuing you. There are also rocks which you can make fall on your pursuers and delayed-action bombs which you can detonate by remote control to blow up the ant eaters.

Three other new cartridges are on offer from this brand new Atari games firms — all in cartridge format.

Attack at CYG-4 is a scrolling shoot 'em up with various aliens and space sectors to be penetrated.

Princess and Frog is a Frogger type game and Fortune Hunter a classic treasure room adventure.

In Princess and Frog a busy jousting field takes the place of the usual Frogger motorway. Mounted knights rush back and forth across the screen — and the frog must avoid their deadly lances.

In the river you'll find snakes and serpents instead of logs and turtles. An interesting variation of an overworked theme.

The games are available from Atari dealers now or direct from Surrey based Romox at £29.99.

GAMES NEWS

RETURN OF THE WOOLLY JUMPERS!

VIRGIN GAMES

The first seven titles from Virgin Games, the new spin-off from their record producing empire, have just arrived.

Predictably there are several space shoot 'em ups with titles like Starfire, Mission Mercury, Space Adventure, and Landfall.

On a slightly more original note is a game called Sheepwalk for the 48k Spectrum. You control Rex the sheepdog as he rounds up the flock that have escaped from the pen. Being careful not to let Rex get too close to the sheep to scare them he must also be swift if he is to stop the sheep destroying Farmer Brown's prize radishes and beetroots. See the Reviews pages for our opinion on the game.

The second most original game in the batch is Bug Bomb for the BBC which challenges you to rid electronic grids which provide power for the cities of mutant bugs.

Other games in the range include Yomp — a Frogger type game in which you have to get your soldiers across a busy road.

Golf fans can also play the game on their Spectrum with a simulation for the 16 or 48k machine. Virgin games are in the shops now at £7.95.

THE AWESOME ROBOTS AIM TO KILL!

ANDROIDS

If you think of cute characters like Metal Mickey when somebody mentions robots then forget it. Start thinking about homicidal laser-spitting death droids!

In Androids, the latest game from Sunshine Software of London, you are being pursued through a maze by the robots. You are armed with a gun — though this has limited fire power and will have to be replenished from time to time by walking over the coloured squares.



Androids is available from Sunshine at £4.95. The game will run on the Spectrum in 16 or 48K.

Also new from Sunshine this month for the Spectrum is space shoot 'em up called Galaxy Attack for the 48k machine. Your ship has crashed on a distant planet. It's a race against time to rebuild your craft in time before the alien Walkers reach it and blast your defenceless crew.

GIVE YOUR GAMES SOME STICK!

CONVERSION

If you have invested £20 in a joystick for your Spectrum and then when you got it home found that some of your favourite games are not joystick compatible then you will be pleased that a solution is at hand.

Kempsoft — the software division of the joystick manufacturers have written two conversion tapes.

The conversion tape is loaded into the Spectrum. A menu appears from which you select the game conversion you require. This is then loaded and you then load your chosen game in the normal way.

Tape one converts Hungry Horace, Horace Goes Skiing, Flight Simulation, Arcadia, Penetrator, Spectrum Spectres and Space Zombies.

The tapes cost £4.95 each and are available from Kempston Micro Electronics of Bedford.

GAMES TO LAST A LIFETIME!

JUMPING JACK

The next range of games will take "half a lifetime" to get through all their levels.

It is a range of three games due to be launched in early July, two of them on the Spectrum and one on the Commodore 64.

As we go to press the details are few and far between but we do know a little about Zzoom (previewed right), and the other two are Zip-Zap (Spectrum) and Arcadia (64). Both are arcade games featuring more levels than the average player will ever be able to accomplish.

We can reveal that the company is Imagine Software of Liverpool and the game is a 48k only cassette for the Spectrum.

Three games are to be previewed but according to Imagine the main reason for the trade preview is to show off the new 48k game.

Already in the shops from the Liverpool firm is a new game called Jumping Jack. This is the first Imagine game written by a freelance programmer but, like the majority of the firm's other games, is based on an original idea.

You control a little character who appears at the bottom of the screen. Above him are several parallel lines — moving platforms which he must hop on to. The key is to wait for just the right moment when the gap in the platform appears and then hop up at just the right moment.

Each time you get to the top of a screen you are given one line of a poem — providing an added incentive to get to the end of the game and discover the rest of the verse. Jumping Jack is available from most Sinclair software shops at £5.50.

We have 100 cassettes of Jumping Jack to give away this issue. See page 110 for details but be sure you're quick off the mark.

EVIL BIRDS ARE OUT TO GET YOU!

ZZOOM

Zzoom through the skies, blast your way through the enemy and try to save the last survivors of the human race.

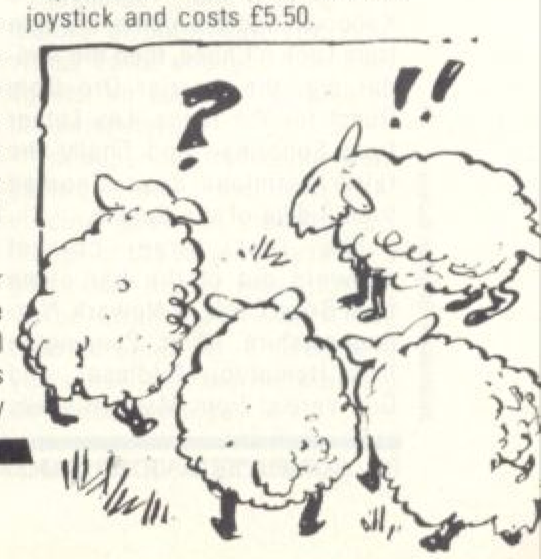
This tall order is the object of the latest 3D challenge from Liverpool-based Imagine Software.

The screen shows you a view from your ship's cockpit. You have to fly over different landscapes, rescuing the survivors and refuelling — this keeps your protective shields activated.

But watch out for waves of enemy aircraft, flocks of evil-minded birds and surface-to-air missiles are all chasing you, bent on your final destruction.

The more people you rescue, the higher your score. This involves some daring low-level flying. Use your bombs and machine guns to protect yourself from the deadly aliens and their weapons.

Zzoom runs on a 48k Spectrum, is controlled with the keyboard or a Kempston or Fuller joystick and costs £5.50.





PLAGUE OF SWARMERS PODS AND BAITERS!

DEFENDER ACES TAKE UP THE ATARI CHALLENGE



Last years' Atari champ, Craig Heap, from Manchester, who won his title playing Pac-Man.

Pop stars David Van Day and Gary Numan will be presenting prizes at the National Association of Boys Clubs Atari Defender Challenge.

Up and down the country members of the association have been blasting away at the Pods, Swarmers and baiters to clock up high scores in the hope of going through to the final at the Hilton Hotel on Saturday 25th June.

Of the 10,000 entrants just sixteen super skilled finalists will be firing away for the coveted title of Defender supremo.

You'll have to wait until next month to find out the winner but I can tell you some of the finalists clocked scores in the region of 100,000. Like Anthony Broons from the London Springfield Club who entered as favourite with a whacking great 113,000 and South West regional champ Stephen Harvey with alien-crunching 97,000.

Can you beat the Atari whizz-kids? If you've topped 120,000 drop us a line and tell us about it.

The sixteen finalists will enjoy a no-expense spared weekend of fun courtesy of Atari UK including a trip to the Thorpe Entertainment Park and a visit to the cinema to see Return of the Jedi.

The highest scoring Defender player will also take home a video cassette recorder and win an Atari 800 for his club. Runners up will receive the latest Atari game releases.

VIDEO VILLAINS CONTEST WINNERS

Did you spot the Video Villains in our June issue's special supplement, The Book of Video Games? Are you one of our winners? Read on to find out!

They were an ugly bunch — that Mad Bomber from Activision, the nasty Amidar pig, and Superman's arch-enemy, the evil superbrain Lex Luthor. We asked you to place these tough characters, plus four other video villains in order of toughness. Here in the *C&VG* offices we worked out our own order — which you may or may not agree with — but we're running the contest, OK?

Top of our tough villains list, the one who would give you the most trouble on the video screens of the world is the Mad Bomber from Activision's Kaboom. Second came the cop from Lock n'Chase, then the Amidar pig, the warrior Orc from Quest for the Rings, Lex Luthor from Superman and finally the fairly harmless desert nomad from Riddle of the Sphinx.

The first three correct answers out of the hat came from Brian Cobb, of Newark, Nottinghamshire, Miles Pennington from Hampton, Middlesex, and Guy Verbist from Malvern Wells in Worcestershire. The lucky winners will receive five brand new cartridges of their choice courtesy of the new specialist video games shop in West Drayton — the Easy Video Games Centre.

Brian has chosen Demon Attack, Auto Racing, Atlantis, Donkey Kong and Gorf for his Intellivision. Miles has gone for a series of games including Turbo, Gorf, Zaxxon and Venture for his Colecovision system. We're not sure what Guy wants as he was at school when we called to tell him of his good fortune!

The ten runners-up will receive five book-binder style video game cartridge holders, specially designed by Easy Video.



Illustration: Stephen Gulbis

NEW GAMES FROM PHILIPS . . .

They are here at last — the first batch of independently produced games for the Philips G7000 System.

Versions of successful Imagic Games — Demon Attack and Atlantis — are now in the shops for this game-starved machine.

Demon Attack is one of the toughest shoot 'em ups available for the Atari VCS and should give a tough fight to Philips owners as well.

Its multi-wave aliens look good as well as giving a trigger burning challenge just like the versions already seen on the Atari system.

Atlantis has also sold well on the Atari and Intellivision machines and is therefore another obvious choice for Imagic to convert to the Philips.

The game challenges you to protect the beautiful lost city of Atlantis which is under attack from the surface.

You have three cannon installations from where you must attempt to blast the aliens. The games go on sale at the end of July at around the £25 mark.

The Philips range of games now makes Imagic the video games company with the widest number machines in its range. As well ay the Atari VCS, Intellivision and Philips they now produce games for Colecovision, Vic-20, and the Atari 400 and 800 home computers.



GAMING

I GET A KICK OUT OF YOU!

THE BIG MATCH ON YOUR GAMES SYSTEM

Atari United make a pretty strong team. They thrashed me 10.0, 15.3 and by a couple of margins which I've got no intention of repeating here.

Three international superstars have been bought at staggering transfer fees and set in silicone to make one of the hardest to beat soccer games you can buy.

The new Realsports game is at its best when two people play. Taking on the VCS itself is rather like Manchester United versus Stoke Poges All Stars on an off day.

You can select the length of the game and choose whether to play against the computer or a friend. The pitch scrolls horizontally. Possession of the ball is maintained by depressing the fire button on the joystick.

To pass the ball first select the player you wish to pass to by pressing the fire button.

This will make your three players glow white in sequence — when the chosen player is white move the joystick in his direction and press fire once more.

Mastering the pass procedure is the key to getting full enjoyment from this game. It'll take a lot of practice to get it right — but once you master it playability of the cartridge takes a quantum leap forward.

A nice touch on this soccer simulation are the sound effects. You get the cheer of the crowd and the referees whistle when a goal is scored.

A major improvement on Atari's earlier soccer cartridge. The game will be in the shops in July at £29.99.

If you look hard enough you may still find a Pele Soccer in a faded box amongst all the new games. Chances are it'll be at a knock down price and, at around £20, it'll give you an adequate game football match at £10 less than the premium priced Realsports cartridge.

The old Pele cartridge differs from the new one in that it shows you a vertical view of the pitch with the players scrolling up and down screen.

Again you control three players though passing is much more of a hit or miss affair than with the new version and the graphics are very basic in comparison. The footballers look more like little robots than live flesh and blood.

The computer makes a tough opponent — though not as tough as in the Realsports cartridge.



Pele Soccer has one really irritating frill.

Each time a goal is scored you are treated to a celebratory firework display.

This is quite pretty the first time around but when the VCS has knocked in its twelth goal to your nil it becomes quite simply annoying.

The third option for football fans wishing to play the game on their VCS comes from Mattel and is just one of the games in the new M Network range.

This will be the cheapest of the trio retailing at around the £15 mark.

Another vertically scrolling game through you have four players instead of three as in the Atari cartridges.

M Network International Soccer will provide the real competition for Atari Realsports Soccer when the few remaining Pele Soccer cartridges are withdrawn or snapped up.

C&VG verdict on the Soccer cartridges — the Realsports version is the superior game though if you buy the M Network game you may have enough spare cash to get another game or even a new joystick to help you score the winner!

CONQUERING CONVERSIONS

Activision recently showed off their new releases at a special press preview in London.

The titles seem to underline the leading games firm's commitment to developing original games rather than buying licences to convert hit arcade games like Atari and Parker Brothers.

The most original of the trio is Oink which offers the best video pigs I've seen and certainly puts those pink blobs from Amidar in the shade.

The idea of the game is to protect your little porker from the big bad wolf who is huffing and puffing in his attempt to blow your wall down.

Every time he blows a brick out of the wall you've got to replace it to score points.

Intellivision owners have been included in the new Activision releases though still nothing for you G7000 gamesters.

Happy Trails is the name of the Intel game and you play the part of a crockety old prospector searching the hills of the old west for treasure.

The screen is made up of a spaghetti junction of trails. You don't move the old chap — but move the sections of trail, jigsaw fashion, to make a continuous track.

Happy Trails is the work of Carol Shaw of River Raid fame so the game has a lot to live up to. Don't miss next month's *C&VG* to read Joystick Jury's judgment on this new cartridge.

The third offering from Activision is for the Atari VCS — called Seaquest, and looked at first glance like the dullest of the bunch.

Your task is to rescue divers who are returning to the sub with treasures of the deep.

Seaquest is in the shops now at £29.95 as is Happy Trails at £24.95. Oink will be in the shops in August, also at £29.95.

ACTIVISION'S GAME SET AND MATCH

With the top tennis stars slugging it out on the centre court at Wimbledon many of you will be glued to the TV screen.

Should you decide to plug in your VCS between sets what better cartridge to choose from than Atari's new tennis challenge in the Realsports series.

Featuring a 3D perspective you are serving into the screen — facing your opponent — rather than the early horizontal pong-style tennis.

The new Atari cartridge is an improvement on the existing Activision Tennis cartridge.

It has a score board which enables you to write in your name and that of your opponent.

Authentic tennis scoring is a feature of both Atari and Activision carts and you can play against an opponent or take on the computer.

For superior graphics the Atari cartridge gives the most convincing game of video tennis though at £29.99 you may find it a good deal dearer than its Activision counterpart which has been around for a couple of years now and therefore selling at a reduced price.

Illustration: Jon Davis



Virgin Games
A name to PLAY with
GOLF (Spectrum 16K & 48K)
CHAMPIONSHIP GOLF IN YOUR OWN HOME by David Thomson VGA 1004
MISSION MERCURY (VIC 20 UNEXP)
LAND YOUR CRAFT AND RESCUE THE SCIENTISTS . . . BUT BEWARE THE ASTEROID BIRDS by Steve Lee VGA 3001



YOMP (Spectrum 16K & 48K) COMMAND THE PARAS AND TAKE ON THE IMPOSSIBLE
by T. Murray & R. Poole VGA 1001
STARFIRE (Spectrum 48K) RID THE GALAXY OF THE XTARDAN BATTLE CRUISERS – A GAME OF STRATEGY AND SKILL by Martyn Davies VGA 1002
SHEEPWALK (Spectrum 48K) A SHEEPDOG TRIAL IN YOUR LIVING ROOM! IT'S A ONE-MAN SHEEPDOG TRIAL by Gregory Trezise
VGA 1003
SPACE ADVENTURE (BBC B) A GRAPHIC ADVENTURE SET ON A SEEMINGLY ABANDONED SHIP DRIFTING THROUGH SPACE
by R. Thomas & A. Thomas VGA 2003
OVERHEATING
BUG BOMB (BBC B) A SKIN-TINGLING NEW ARCADE GAME
by Simon Birrell VGA 2001
LANDFALL (BBC B) AN EXCITING AND REALISTIC SPACE SHIP LANDING SIMULATOR
by Gregory Trezise VGA 2002
VIRGIN GAMES GANG
With each title you buy before the end of August you get:–
1. An offer of One Year's Free Membership of The Virgin Games Gang.
2. Free Entry into The Virgin Games Gang draw on September 6th.
First Prize – £500 of computer hardware or software of your choice
Second Prize – £100 of computer hardware or software of your choice
and 150 runner-up prizes of Virgin Games T-shirts or posters.
3. A Specially mixed piece of music by Steve Hillage – to play while you play.
If your local retailer is not yet stocking Virgin Games – tell him he should be – but, however, you can order direct from "I've got no good local retailer" dept, Virgin Games Ltd, 61-63 Portobello Road, London W11. enclose a cheque or postal order for £7.95 for each title you want and don't forget to put your name and address – people do you know!
Allow up to 28 days for delivery before complaining.
Don't forget, if you want to make some money to buy some games from us or do whatever else you get up to and you have written an original games program, with good graphics for any of the popular home computers other than the ZX81, send a cassette version to us – it could make you rich.
£7.95
R.R.P.
Computer FUN . . . available NOW!





SKIP THE SKIPPER!

A brief flirtation with Nintendo's Sky Skipper in the arcades way back in autumn of 1982 whetted my appetite for the forthcoming Atari version. Unfortunately it has suffered much in its conversion.

The original boasted cute graphics which involved sharp joystick control to bomb gorillas over a city skyline and rescue animals.

The gorillas hurled coconuts skywards and were dizzied by being hit on the bonce by the pilot's bombs.

The VCS version has a maze taking the place of the skyline and although the plane is capable of the same instant manoeuvring, it is more difficult to end up facing the right direction on a VCS joystick — and this is a game where control is critical.

Upon bombing (and dizzying) the gorilla, the player releases a series of caged birds or animals which he must then rescue by flying into them.

It is a game of millimetre control and usually ended with me convinced that had I hit the joystick to change direction but it had not registered, very frustrating but not as addictive as it should be.

The monkies do not throw nuts although clouds cause problems on later screens and the game speeds up considerably on the fifth screen difficult to achieve with regularity. Four skill levels and the usual Parker packaging for £25.95.

THE VERDICT

A game which badly misses the sharp cute graphics of its predecessor and becomes dull all too quickly. There's better to be found in the Parker catalogue.

- **Action** ⊥⊥
- **Graphics** ⊥
- **Addiction** ⊥
- **Theme** ⊥⊥

Having gorged myself on dozens of turns at Mattel's Burgertime it was with great anticipation that I plugged in the next cartridge from this company. Alas, Vectron is not in the same league.

The idea of the game is to fill in each screen with power blocks and energise them. The blocks are made to appear by depressing the fire button on the side of the controller. Level a laser blast at it by manipulating the control disc. This energises the block. When the play area is completely filled with charged blocks you can then go on to the next screen.

All the time you are trying to fill the screen you are under constant attack from the aliens. These come in different varieties and the toughest ones are saved for the later screens.

Each new screen is a different shape to the previous one and will necessitate a modification of strategy.

To fire your laser gun you simply move the disc in the direction of the target and the gun will fire automatically. An original game — but a far from good one.

Everything on the screen appears to move except for your laser base which is a permanent fixture at the top of the screen.

You spew out laser fire in all directions without rhyme or reason as it is impossible to tell which is the main aim — killing the aliens or filling the blocks. The result of this is that achieving either giveslittle satisfaction. Vectron is in the shops now at £29.95.

For a far better investment check out Burgertime or Pitfall.

THE VERDICT

An original idea — but a very dull game.

- **Action** ⊥⊥
- **Graphics** ⊥⊥⊥
- **Addiction** ⊥
- **Theme** ⊥⊥

Smurf Rescue is the cutest cartridge ever to plug into a video games console. If anyone ever asks you how good are the graphics on Colecovision plug in the Smurfs and let them see for themselves.

The idea of the game is to rescue the Smurfette who is being held captive in Gargamel's castle.

As the gallant Smurf you must walk through fields, forests, caverns and finally into the spooky castle itself.

To thwart your rescue bid the evil Gargamel has trained bats, hawks and spiders who dive bomb you as you make your way to the castle. By pulling back on your controller you can duck down to avoid these.

As you walk along the path other obstacles must be hopped over such as mounds, tufts of grass, and fences. By timing your jump carefully you can land on just the right spot to pick up bonus points.

The graphics of Smurf Rescue are what make the game. The bright colours and plodding walking movement of the Smurf make it very similar to the actual character.

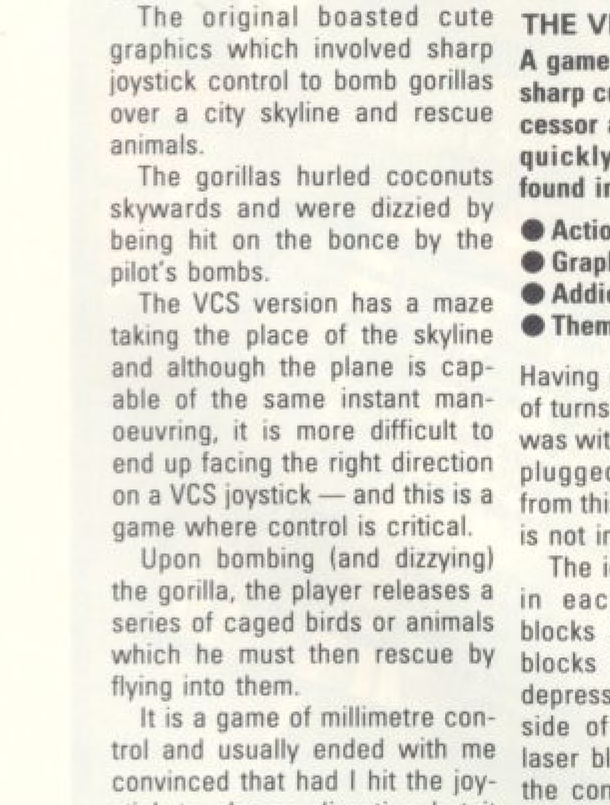
To enhance playability there is an energy level rating which goes up and down according to how quickly the Smurf moves through the various stages.

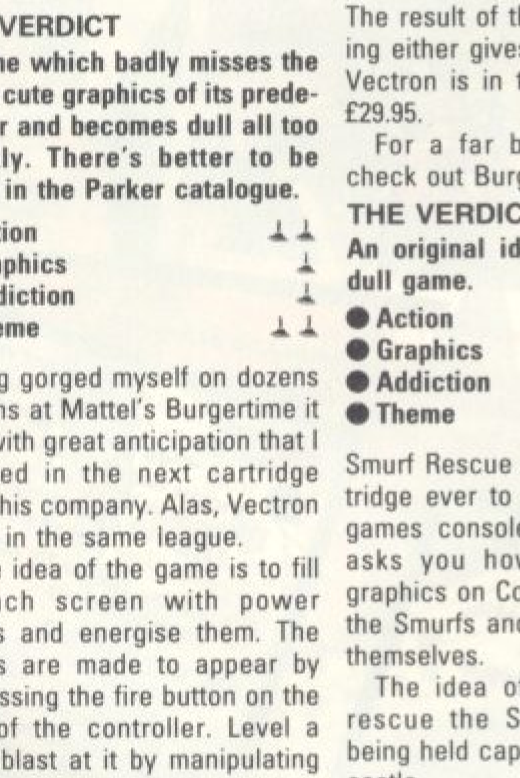
Just one gripe — with the joysticks rather than the game itself — it's really difficult to manipulate the disk to make the Smurf run into a jump without the controller slipping in your hand. Roll on the new improved Colecovision sticks — these should improve Smurf and most other Colecovision games.

THE VERDICT

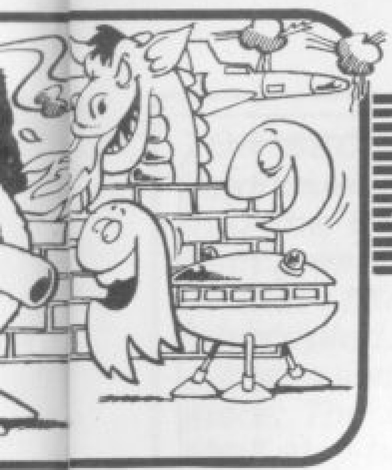
Beautiful to look at, but not the toughest game you'll come up against.

- **Action** ⊥⊥⊥
- **Graphics** ⊥⊥⊥⊥⊥
- **Addiction** ⊥⊥
- **Theme** ⊥⊥⊥⊥









GAMING

TOP TEN

GAME	MANUFACTURER	GAME	MANUFACTURER
1 Phoenix	Atari	6 Donkey Kong	CBS
2 Pac-Man	Atari	7 Defender	Atari
3 Frogger	Parker	8 Ms Pacman	Atari
4 Vanguard	Atari	9 Demon Attack	Imagic
5 River Raid	Activision	10 Space Invaders	Atari

All the above cartridges are produced for the Atari VCS home video games centre.

PLUG INTO THE ARCADE

Atari keep the arcade conversions coming thick and fast with two new titles lined up for a September release.

Galaxians will need no introduction to the more seasoned videogamers as it was a monster hit in the arcades at the height of the post space invaders boom in the early 1980's.

It will be interesting to see how well it does on the VCS having been so long out of the arcades. My guess is that it may be just a little bit too late as there are already dozens of good shoot 'em ups already available for this machine — Demon Attack, River Raid and Defender to name but three.

Slightly more up to date is the Atari home version of Jungle Hunt — Taito's Tarzan and Jane style adventure. You must rescue the fair maiden from the cannibals who have carried her off — swing through trees — wrestle with crocodiles — all swashbuckling stuff for VCS owners.

On a more educational level come the first two Atari Sesame Street titles for youngsters. Cookey Monster and Sorcerers Castle will be in the shops soon with more educational titles on the way for Christmas.

The games licensing business is hotting up with several big arcade games being bought up by Atari, Colecovision and Mattel.

Atari have Pole Position, Pengo, Joust and Moon Patrol all poised to attack the Christmas market. Neither of Atari's main rivals on licensing — Parker Brothers and Coleco — are going to sit back and watch this new batch of games arrive in the shops unchallenged.

Parker have Tutankham, Q*Bert, and Super Cobra, all of which will be supported with the traditional Parker TV advertising blitz.

The Colecovision trump card games will be Buck Rogers, Donky Kong Junior, and the new Super Zaxxon — though the main thrust of Coleco's TV advertising campaign is likely to concentrate on selling the Colecovision itself.

Intellivision owners will share some of the action with three hot titles signed up from the Japanese arcade aces — Data East.

Burgertime and Mission X have already been converted for home use.

Also in the pipeline is a fantasy road-race game where your car can leap into the air.

One thing is certain — even when you are not using your TV set with your games consul you are going to see a lot of games on television over the next few months.

THINGS GO BETTER!

Coca Cola — that famous soft drink — is now available as a video game! Every time you by a can from an American made vending machine you get a game on a video machine.

The new vending machines have a built in screen measuring 6 by 4 inches which gives a free go every time you buy a coke.

The game is called Catch-a-Coke and you play the part of a hard-pressed delivery man who is being showered with coke cans by a mischevious monkey perched at the top of a palm tree. The more cans you catch the greater your score.

To stop long queues gathering at the coke machine the game has been made so tough that it will only last around 20 to 30 seconds. The owner of the machine can adjust the skill level to make it still tougher if necessary.

Coca Cola say the video game is as a sales tool and believe it will encourage America's army of games-mad teenagers to buy more coke! One of these exciting new machines will be coming to this country during the summer — but exactly where it will end up is still a mystery.

IT ALL LEADS TO A TOP PRIZE!

". . . And just as I was about to beat Derek's Laser Space Blast record, I jerked to the right, the joystick wire taughtened and went spinning from my hand. Helpless I watched as the aliens took my last life."

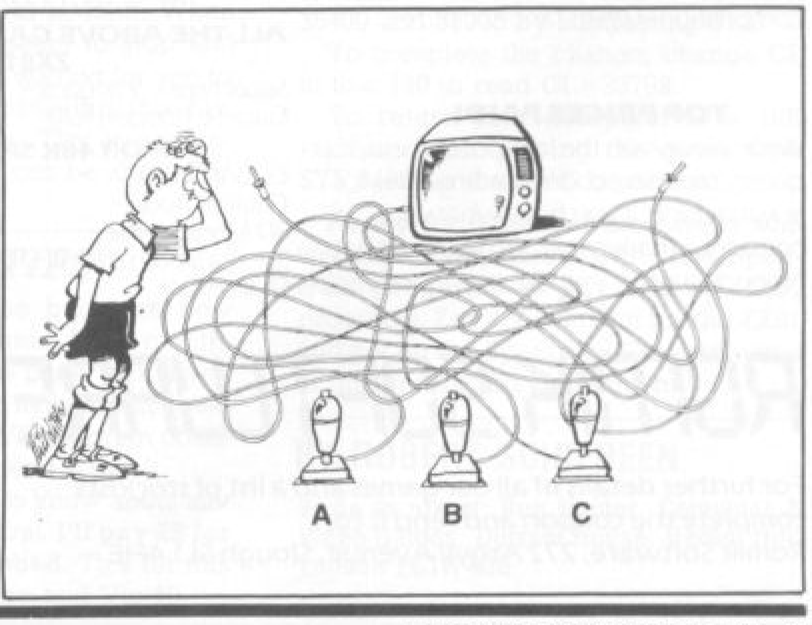
Every TV gamer has a story like this. A sorry tale of crossed wires, joystick plugs loosened at critical moments and fistfuls of flex.

We're offering the chance for five of our readers to end joystick jerk forever. There are five Cynex Remote Control Joysticks to be won in our Crossed Wires competition.

Look at the picture of a confused games player (right) and see if you can work out which joystick he should use to play the game.

Unfortunately a weird tangle of wires has made the choice more difficult than it ought to be. If you can work out which joystick our gamer should pick up, send it in to Crossed Wires, *Computer & Video Games*, Durrant House, Herbal Hill, London EC1R 5JB.

We need to receive your entry before August 12th, then the first five correct entries out of the hat win a Cynex joystick worth £70. Usual *Computer and Video Games* competition rules apply.



TOP SECRET . . . Robert to all readers . . . message begins . . . After a tough journey I've managed to get right into the C&VG office while remaining inconspicuous. With great difficulty I've erected a transmitter on the roof so that I can send my reports safely without them being intercepted.

It was awful! There were bugs everywhere. But not any more. The office is now completely free of bugs and I shall stay here for as long as it takes to ensure that this reign of terror can never return. I'll be reporting monthly on any infiltration of the magazine's pages, and will keep you informed . . . message ends.



BUG HUNTER

All bugs have now been banished, never to return, and the computer room has been pronounced bug free. All that remains to complete the clean up is to expose those bugs which were in residence before I arrived . . .

ATARI — TEN COMMANDMENTS

Firstly there was the Ten Commandments game for the Atari on page 54 of the June issue. Many of you were having problems with line 14093. I have now been assured by the author that this line is not necessary and may simply be deleted.

ORIC — SNAKES

Although Snakes for the Oric on page 53 of June's issue was bug free when it left our reviewer, Mal Function appears to have crept in while the printer's back was turned.

The small squiggle in line 30 is supposed to be a quotation mark, and the one after line 150 is, as most of you realised, the start of line 160.

Not content with interfering with the printing, Mal has also changed the keys which the instructions say are used to control the direction of the snake.

Despite the printed instructions the snake is controlled as follows: 7 up, 6 down, 8 left and 5 right. You can alter line 130 to use any keys you wish; I preferred Q and A for up and down and C and V for left and right.

If you wish to use the cursor keys as in the instructions, you will have to substitute the letter in quotes in line 130 to read CHR$(X) where X is 8, 9, 10 and 11 for left, right, down and up respectively.

Another tip for Oric owners comes to us courtesy of the Tangerine Users Group. If you intend to use a lot of string space in your program, you may find that the strings overwrite the character set in RAM. This can be cured by making the first line of your program HIMEM=#97FF.

VIC 20 — GHOST TRAP

Although the instructions say otherwise, use the Z and X keys to move left and right. If you'd rather use the cursor keys as printed, change lines 104 and 105 to IF X=31 and 23 respectively.

TI 99/4a — SKI-ING

Texas owners, I admit, have suffered badly at the hands of the bugs. Most recently there was the Ski-ing program, for which we sent out many hundreds of correction sheets with what we thought was the definitive version.

Well, it was . . . almost! The screen positions for the gates are held in DATA statements as screen coordinates but they appear to be the wrong way round in their pairs.

To correct this, alter the READ statements in lines 290 and 360. 290 should now read READ B,A,C and 360 should be READ B,A. The program will then work. I know — I've played it myself.

SPECTRUM — CANYON LANDER

Another attack on our instructions came in Canyon Lander for the Spectrum in the May issue on page 68. Although the instructions say that control is through the I and O keys, it should read 1 and 0. This is controlled by the IN statement in line 110 and can be changed if you wish. The relevant IN locations are in the Spectrum manual.

VIC-20 — PROTECTOR

Not really a bug this, but it puzzled quite a few of you struggling with Protector for the Vic on page 48 in June. When run, the program appears to stop and do nothing; it is in fact waiting for you to start the game by pressing the fire button on the joystick. This is accomplished in line 90 and can be altered or removed if you wish.

HINTS AND TIPS

As far as I know, the bugs are now extinct — at least until next month. Remember, this is the page which you help to write. So if you have any suggestions about how a *C&VG* program could be improved please send it in.

We would also like to know about any tips for micros in general. **I'll pay £5 for any which are published.** Tips for this month are for the Sharp and Vic-20.

For the Sharp comes a conversion of Mad Max, published for the MZ80K in May 83. To allow the program to work with disc Basic the program should be altered as follows:

Replace POKE 17828,0:GET A$ with USR(ST):A$=CHR$(PEEK(53247)) and install the machine code by adding these two lines:

```
6 LIMIT53239:ST=53240:FOR XT=0 TO 6: READ DA: POKE ST+XT,DA:NEXT
7 DATA 205,27,0,50,255,207,201
```

Also, says J. Leonard of Penzance, if the last variable on line 515 is changed to D$ then the right person will get the credit for the highest score.

Final tip is for Vic owners trying to use a 16k expansion to play Logger from the April issue. It comes courtesy of Mike Davies from Dyfed, Wales.

Before loading listing one, load the following program:

```
1 POKE 36869,PEEK(36869) OR 13
2 POKE 9216,0:POKE 9217,0:POKE 9218,0
3 FOR A=43 to 50:READ B: POKE A,B: NEXT
4 NEW: DATA 1,36,3,36,3,36,3,36
```

Then change listing one: Line 5 becomes POKE 36879,25 and 65 starts: FOR I=5120 TO 5631 . . .

Finally change all values in listing two between 7680 and 8185 by subtracting 3584, then change all values between 38400 and 38905 by subtracting 512.

To complete the change, change CL in line 430 to read CL=33792.

To return your computer to a 16K machine after playing the game type SYS 64824 and all will be normal.

Finally, for those Sinclair owners who wondered why there were two Spectrum programs in July and no ZX81 programs, Zax's V is in fact for the ZX81 and not for the Spectrum. Crossed wires in our production department!

BY ROBERT SCHIFREEN

Write to me at: Bug Hunter, Computer & Video Games, Durrant House, Herbal Hill, London EC1R 5JB


MAL FUNCTION
T. HITCH
SNAG JNR
SCREAMING FOUL U–
THE BUGS
OOER!!
R.A.M.
WHADOOM!
RAM SUSPECTS THAT SOMETHING NASTY IS GOING TO HAPPEN!
SCHOOL HOLIDAYS! I HATE IT WHEN HIS NEPHEW COMES ROUND!
HEE! HEE!
YEAH! THE KID'S GOT INCREDIBLE EYESIGHT!
SINGE!
I'M SURE HE SUSPECTS US!
SEVERE SINGING TO PIXEL!
YIPES!
.. HE CAN'T HURT US OFF SCREEN. LET'S STAY OFF UNTIL HE'S GONE!
FUME!
HOLD ON! HE'S GOING TO DO SOME PROGRAMMING!
HE'S A REAL PEST WITH THAT LIGHT PEN!
LET'S TEACH HIM A LESSON!
OH DEAR! I CAN'T AGREE TO ANY SORT OF RETALIATION. REMEMBER. I'M USER FRIENDLY.
THE LIGHT PEN GOES TO WORK!
ZAP!
MEANWHILE ... ON SCREEN!
10 FOR X=1 TO 65535
20 PRINT CHR$(PEEK(X))
30 NEXT X
SNIGGER!
SINGE!
OH NO! HE'S WRITTEN A PROGRAMME TO DUMP THE WHOLE OF THE MEMORY ONTO SCREEN!
SHREK!
STILL FEELING USER FRIENDLY?
WHOOSH!

Announcing more exciting programs for the BBC.

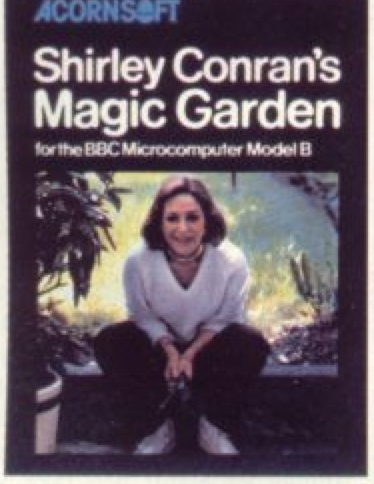
Acornsoft is the software division of Acorn Computers, the company that designed and built the BBC Microcomputer. Here are four more exciting programs, all designed to get the most from your BBC Micro.

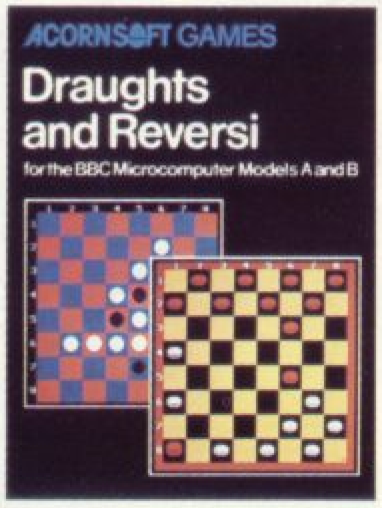
Magic Garden (£9.95) is a cassette based on Shirley Conran's successful book. It's a problem-solving program which provides the complete beginner with instant answers to the questions of what to plant and where. Simply tell the computer whether you prefer a shrub or a flower, the type of soil, light and shade conditions and required flowering time and the computer will come up with a selection of possible plants.

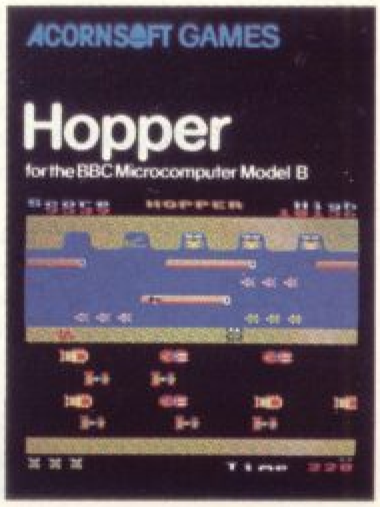
Draughts & Reversi (£9.95) is a cassette containing two traditional board games for you to play against the computer. Both give a graphic display of the board on the screen and you can enter your moves with either keyboard or joystick. The games can be played at varying levels of difficulty and on the higher levels you will find the computer to be a very worthy adversary.

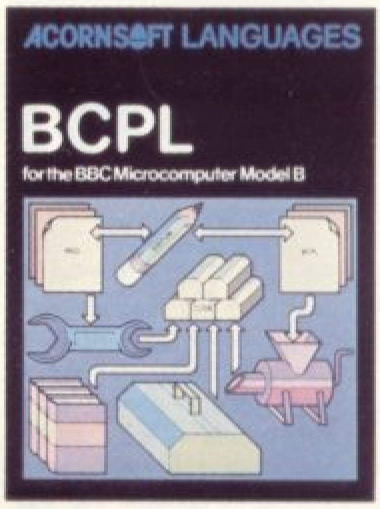
Hopper (£9.95) is a game on cassette which can be played with either keyboard or joysticks. Hop the frog across the busy motorway trying to avoid four lanes of fast-moving traffic. To get across the river to the frog's lair you must leap on to the logs and turtles' backs, but beware of the diving turtles, the crocodile and the snake.

BCPL (£99.65) is a flexible modern structured language that's very easy to learn. The package consists of a BCPL language ROM, a 40/80 disc and a 450 page User Guide. The disc contains the BCPL Computer, a Screen Editor and a 6502 Assembler. BCPL is particularly good at handling Input and Output and is ideal for writing utility programs and to develop games and commercial packages.









How to get Acornsoft programs.

If you're a credit card holder and would like to buy the programs shown in this advertisement, or if you would like to know the address of your nearest stockist, just phone 01-200 0200.

Alternatively, you can buy the programs directly by sending off the order form below to:
Acornsoft, c/o Vector Marketing, Denington Estate, Wellingborough, Northants NN8 2RL.

Also use this form if you would like to receive the current free Acornsoft catalogue.

Please allow 28 days for delivery.

☎ Credit Card Holders. Telephone 01-200 0200.

To: Acornsoft, c/o Vector Marketing, Denington Estate, Wellingborough, Northants NN8 2RL.
Please send me the following:–

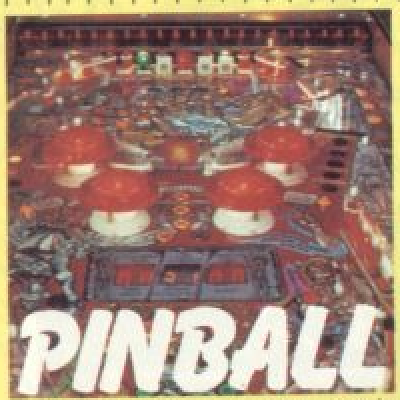
PROGRAM	PRICE	QUANTITY	TOTAL	(Code Acornsoft use only)
Magic Garden	£9.95			SBX04
Draughts & Reversi	£9.95			SBG20
Hopper	£9.95			SBG23
BCPL	£99.65			SNL03
		TOTAL		

I enclose PO/cheque payable to Acornsoft Ltd.
Or charge my credit card.
Card Number________
(Amex/Diners/Visa/Access (Delete)
Please send me the Acornsoft brochure ☐
Name________
Address________ CVG8
________ Postcode________
Signature________

Registered No. 1524763. VAT No. 215 8123 85

ACORNSOFT

ARCADE



Fancy combining your interest in pinball with becoming a famous film director? That's the offer being made by the Pinball Owners Association.

The association is planning a 30-minute video about their favourite pastime — and it will be produced by a top video company based in London. All you have to do is come up with an original idea for a script.

If you want details of the competition, which was launched recently by the association, or if you reckon you have a good idea for the screenplay, write to the Pinball Owners Association at "Arcadia", 465 Cranbrook Road, Ilford, Essex IG2 6EW.

You can also help out the association by telling them where there's a good pub with some pintables! They have been forced to move from the pub used for monthly meetings because all the pintables have been taken away. So members are looking for a good pub in the Greater London area that has a couple of tables and would welcome their custom. Any ideas?

Things are quiet on the pinball front at the moment with few new machines hitting the market. However Gottlieb are bringing out a machine called Royal Flush. This is hardly a new table to pinball fans as it's a remake of an older electromechanical game. With Bally rehashing their classic Eight Ball Deluxe machine recently perhaps this shows a lack of new ideas among the manufacturers. But with innovations like the still mysterious Williams Joust double ended machine, perhaps we're talking too soon!

Good news from America is that the home of the pin is seeing a small revival in interest in pintables among arcade owners. They are finding that a reconditioned table often takes more cash than one of the older and less popular video games.

SPACED OUT LASERS

ASTRON BELT

Laser disc technology is in the British arcades with the exciting Astron Belt game.

As we write Arcade Action this month, still only two of the systems have found their way into the country and only one into an arcade-the Crystal Rooms arcade at Leicester Square in London.

In the search for ever-increasing realism, laser disc games-which use film rather than computer graphics-seem to be the future. And the arcade industry is keen to get to grips with it.

Importers, Taitel Electronics are selling containers full of Astron Belts before they ever reach these shores and the machine is being hailed as the saviour of arcade gaming.

But as in most pioneering ventures, Astron Belt has a few rough edges as a game and should be judged as a hint to what will be possible in arcades within the next year.

The game is set in space and features a Buck Rogers type craft, composed of computer graphics, superimposed on a "real life" background.

As the player controls the craft it swings across the screen, while behind it, the laser disc film features dark moons, arid planets, sunsets, a dreaded black hole and all the other scenes you might expect to find on a space odyssey.

The flight takes you over alien landscapes through Deathstar like space stations and up against the enemy craft.

The game reacts to your fire by exploding ships which it judges you have hit, and turning the screen into a blaze of fire.

The controls in the cockpit feature a futuristic steering wheel set in front of a large 26" colour monitor but the game also comes in a stand-up cabinet with a standard screen and joystick format.

Laser discs do not wear and are easily changed, so that a cabinet-once installed can be altered to provide the latest game. Rumour has it that the next laser disc game available for the Astron cabinet, will be a driving game composed of real race scenes and even cars driven by recognised grand prix stars.

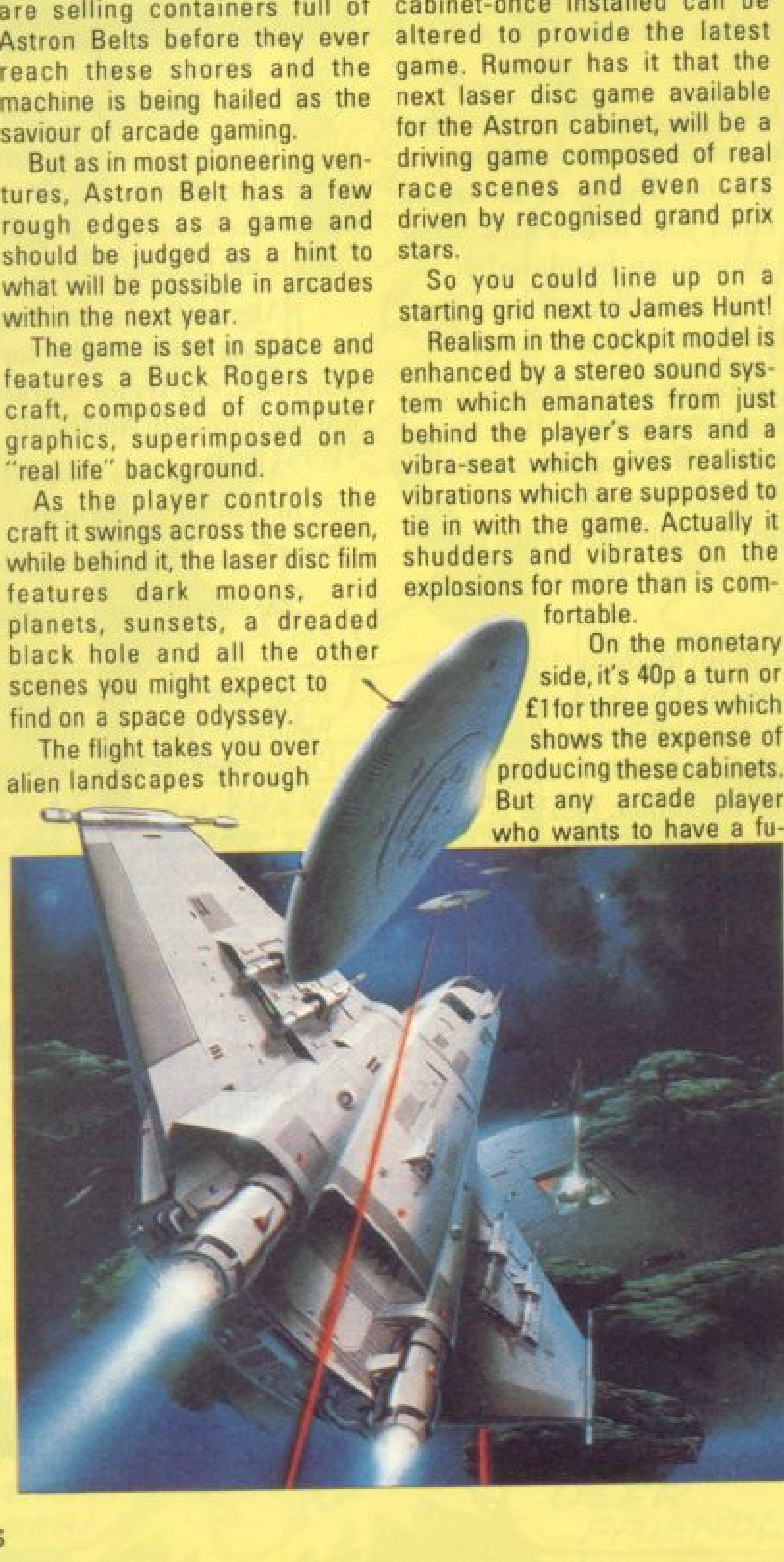
So you could line up on a starting grid next to James Hunt!

Realism in the cockpit model is enhanced by a stereo sound system which emanates from just behind the player's ears and a vibra-seat which gives realistic vibrations which are supposed to tie in with the game. Actually it shudders and vibrates on the explosions for more than is comfortable.

On the monetary side, it's 40p a turn or £1 for three goes which shows the expense of producing these cabinets. But any arcade player who wants to have a future in gaming should try his hand at Astron Belt as soon as possible.

However, it remains to be seen if Astron Belt is the shape of games to come.

And if you want to see as much scenery as possible, put in plenty of money before you start as the game will let you continue from where you left off.





TIME TO TAKE YOUR PICT!

HADRIANS WALL

The Pictish invasion is over with the Romans victorious-which is pretty tough if you're a Pict on the wrong side of Hadrian's Wall.

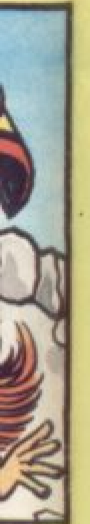
That famous feat of Roman engineering is the setting for a new game which bears little resemblance to early A.D. history.

You play the part of a last survivor of the Tartan hordes, stuck behind enemy lines and wanting to get back to the glen.

Armed with a joystick and a jump button, you run along the battlements jumping over cracks in the wall and dodging fireballs and arrows flung at you by the pursuing legions.

A solitary Roman occasionally patrols the moat below the wall and will fire rocks and arrows up at you which have to be dodged. It is all set against a timer and if you can't complete each part of the wall in time, then you may face the dread Roman on the wall. He comes straight for you and there's little hope of escape.

If you do manage to get to the top of the wall then an ancient Roman escalator will take you the river and freedom. Jump into



your boat and away you sail — down the river Scramble fashion — until you are back in familiar territory.

Back in Loch Ness and who's there waiting for you? Nessie rears her head from the depths and before you can smooth your kilt, you have to rush over and send her packing — back to the primeval murk while you go back to the wall to bring the next Pict home . . . only this time the going gets harder, more arrows, less time.

CAPITAL OF THE VIDEO GAME WORLD

OTTUMWA

If you fancy yourself as an arcade champion then there's now a way to get your score register around the world.

A place in Iowa State in the US, going by the unlikely name of Ottumwa, has set itself up as the arcade games capital of the world.

The Video Game Manufacturers' Association has approved the Ottumwa set-up and the town now houses the only official international scoreboard for video games.

Players call in their scores by phone and have them registered after being verified by the local arcade owner. It is currently receiving 50 to 60 phone calls a day at 01-01 515-684-6421 (from Britain) and ask for Walter Day.



FUN WITH FIREBALLS...

MAD PLANETS

Asteroids were mean but at least they travelled in straight lines. In Mad Planets the rogue heavenly bodies having developed homing instincts will prove decidedly tricky for all space skippers!

A Buck Rogers joystick-complete with fire button-and a spinning paddle lie between your craft and collision course.

The planets wheel on to the screen as red fireballs, rapidly turning into Earth-like planets complete with orbiting moons. While in fireball stage the planets are vulnerable to your fire but otherwise they are invulnerable and their moons must be picked off first.

The moons sometimes fly out of orbit, turning into red dust and, if ignored, these too will turn into planets. If too many planets survive on the screen a rosy super planet will be spawned by one of the spinning moons.

In order to clear the screen, you must first blow up all a planet's moons — it then turns red and becomes vulnerable. It also hurtles around the screen as its orbit decays.

A cleared screen results in a fresh batch of yellow fireballs and then you move on to purple ones. If you succeed in clearing this third onslaught, then comes a bonus screen in which spacemen fly through the void.

These must be collected for bonus points and blowing up a rushing metero will increase the number of spacemen on screen.

Good graphics and speedy action in which you can never let your finger stray far from the fire button. One tip — don't get caught in the corners.



ALIENS IN STEREO

GYRUSS

From the outer reaches of the Solar System, you command the spaceship Gyruss on its journey to Earth.

You approach each planet in a circular orbit, starting with far-off Neptune. Each planet is the host to a horde of aliens eager to get out of the confines of their atmosphere to launch an attack against you.

Exarsions, Petarions, Terarions and Gigarions make up the alien fleets and your job is to attack them while they are still a distant blur in the distance.

An eight-way joystick and marvellous stereo background music help to lift this space game out of the ordinary. There are 23 stages as from Neptune you fly to Uranus, Saturn, Jupiter and Mars, on your way back to Earth.

Every four stages, you enter the chance stage where your craft is invulnerable to the attacks of the Zigmas and Dogmas. A good chance to boost the score.

An additional advantage of the Gyruss game, is that a successful commander can take over his vanquished enemies' fleets and (like Tacscan) move more than one fleet in formation.

The quest finishes before a good graphic representation of the Earth.



E.T. — ARMED AND VERY DANGEROUS!

KOSMICKROOZ'R

The story continues after this new extraterrestrial phones home in Kosmik Krooz'r.

In this video game, your mission is to guide Krooz'r back to his own galaxy light years away. The ugly little devil has far worse than FBI agents and scientists on his trail too.

The journey is beset with problems and obstacles are thrown up by the evil aliens who are out to get Krooz'r.

Luckily he is well-equipped with lasers and he can fire back. When the enemy gets too close, you have to look for the smart bomb button or the energy shield.

The smart bomb turns green and that's your signal to unleash it. As you wander homewards between the planets, it is sometimes necessary to drop in to the intergalactic garage and try to buy up a few spares to get a decent space craft together.

A few items like a fuel tank, a box of bullets or a motor and Krooz'r could soon have a ship worthy of another base.

Eventually the mothership comes onto the screen and when one of the three entry ports lights up Krooz'r can be guided into the onboard beam.

But take care, a slip on the timing here and its back to Earth and another handful of 5 pences.

By PAT NORRIS

RUNS ON A SPECTRUM 16K



Illustration: Dorian Cross

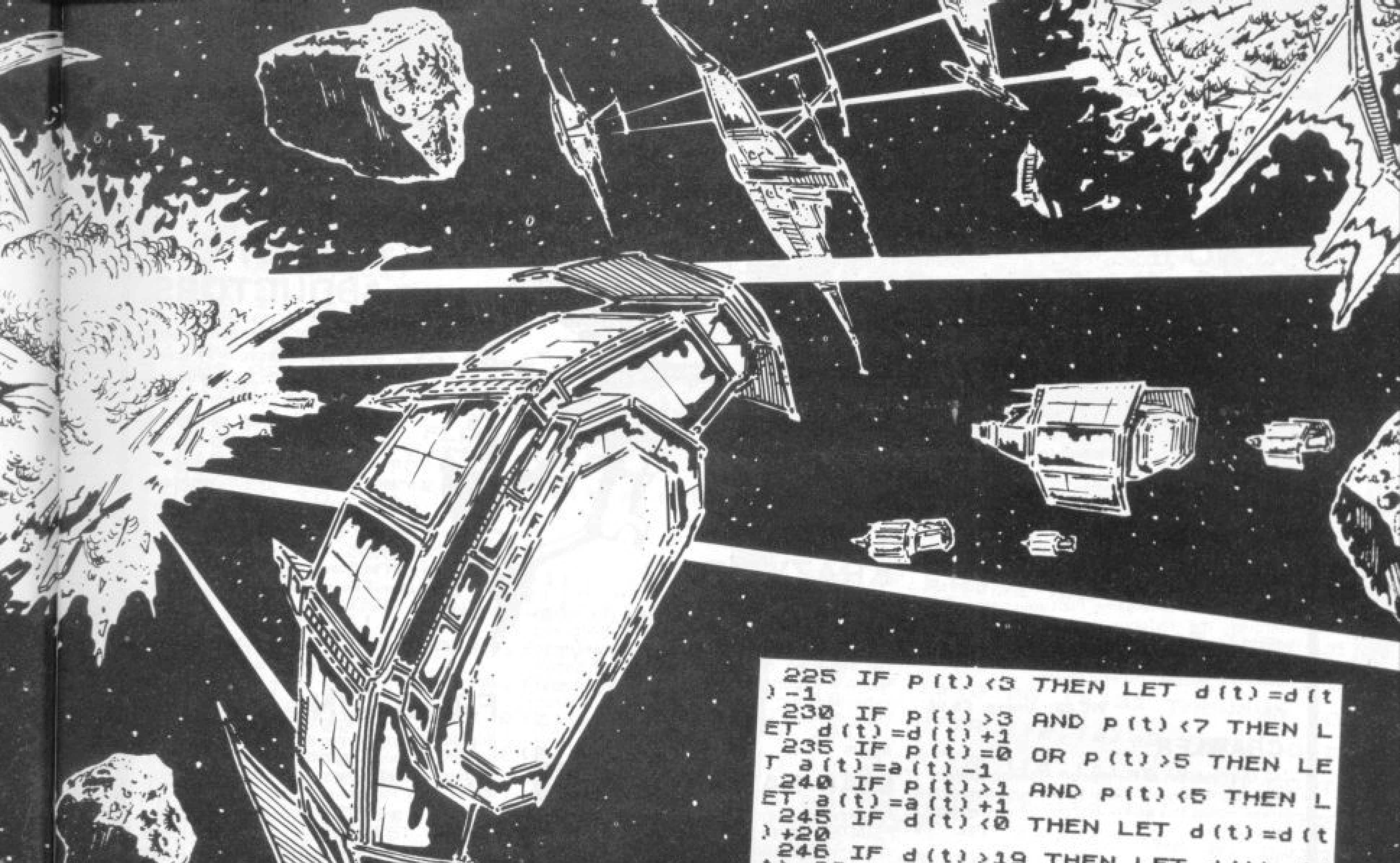
SPACE WAR

Earth is being threatened by aliens from a sinister galaxy who want to colonise our planet and enslave all the inhabitants. The aliens are driven to desperate and violent action as their home planet is gradually being dragged into a giant sun — and will soon become a cosmic cinder. So will their people — unless the alien warriors find a suitable new home.

The alien and earth fleets are about to meet for the final conflict on the fringe of our galaxy. The future of earth rests on the outcome. The battle zone has been strewn with space mines — and large asteroids are also in the area. Thus the scene is set for this two player space battle . . .

The earth fleet is represented by yellow symbols, the alien fleet by green. Space mines are represented by blue dots, and

```
   1 INK 0: BORDER 0: PAPER 0: C
LS : GO TO 3000
   2 LET jj=INT (RND*2)
   3 LET kk=1: LET ll=4
   4 IF jj=0 THEN LET kk=5: LET
ll=8
   5 FOR v=144 TO 152
   6 FOR d=0 TO 7
   7 READ a: POKE USR CHR$ (v)+d
,a
   8 NEXT d: NEXT v: GO TO 25
   9 DATA 248,228,240,182,136,84
,16,0
  10 DATA 16,56,124,186,186,146,
56,84
  11 DATA 31,39,15,109,17,42,8,0
  12 DATA 0,56,132,94,255,94,132
,56
  13 DATA 0,8,42,17,109,15,39,31
  14 DATA 42,28,73,93,93,62,28,8
  15 DATA 0,16,84,136,182,240,22
8,248
  16 DATA 0,28,33,122,255,122,33
,28
  17 DATA 28,60,126,255,254,126,
62,36
  25 LET w=8: LET t=0: LET af=4:
 LET hf=4
  28 FOR b=1 TO 10: PRINT AT INT
 (RND*20),INT (RND*32); INK 5;".
": NEXT b
  30 DIM a(w): DIM d(w): DIM e(6
): DIM f(6): DIM h(w): DIM p(w):
 DIM s(w)
  35 FOR z=1 TO 8
  40 LET b=3
  41 IF z>4 THEN LET b=7
  45 LET p(z)=b: LET h(z)=0: LET
 s(z)=5
  50 NEXT z
  55 LET y=4
  60 FOR z=1 TO 4
  65 LET d(z)=y: LET d(z+4)=y: L
ET a(z)=0: LET a(z+4)=31
  70 LET y=y+4
  75 NEXT z
  80 LET y=4
  85 FOR z=1 TO 6
  90 IF z>2 AND z<5 THEN LET y=1
0
  95 IF z>4 THEN LET y=17
 100 LET e(z)=y: NEXT z
 105 LET y=8
 110 FOR z=1 TO 2
 115 LET f(z)=y: LET f(z+4)=y
 120 LET y=23: NEXT z
 125 LET f(3)=13: LET f(4)=19
 130 FOR z=1 TO 4
 135 PRINT AT d(z),a(z); INK 4;"
D";AT d(z+4),a(z+4); INK 6;"H"
 140 NEXT z
 142 FOR z=1 TO 6
 143 PRINT AT e(z),f(z); INK 2;"
I"
 145 NEXT z
 146 FOR t=kk TO ll
 147 LET i=4: IF t>4 THEN LET i=
6
 148 IF h(t)>9 THEN GO TO 154
 149 FOR c=1 TO 25
 150 PRINT AT d(t),a(t); INK 7;
BRIGHT 1;CHR$ (p(t)+144)
 151 IF INKEY$<>"" THEN GO TO 16
2
 152 NEXT c
 153 PRINT AT d(t),a(t); INK i;C
HR$ (p(t)+144)
 154 NEXT t
 155 GO TO 146
 162 LET kk=5: LET ll=8
 163 IF t>4 THEN LET kk=1: LET l
l=4
 165 LET rh=0
 170 INPUT ;"MODE? (x,m,f,h,t+c
t+c+m.t+c+f) ";m$
 172 LET tm=0
```



asteroids by red symbols. During play the mines will remain static, but the asteroids move around in a random fashion.

If any ship hits a mine, both will be destroyed, but if a spaceship hits an asteroid only the ship vanishes permanently — the asteroid reappears in another part of the battlezone. If two ships collide both will be destroyed.

All ships are equipped with laser cannon. When a ship is hit by laser fire it will glow red and will receive a random damage factor. If the damage factor exceeds nine then the ship will be destroyed.

The movement of ships depends on the amount of damage they have suffered, as does their laser cannon energy. Damage is not repairable during the game, but cannon energy may improve.

Players take turns to control their fleets. Each ship flashes white when it is ready to be moved.

Various inputs control the ships. Move ship = m. Move ship and fire at end of move = x. Put ship into hyperspace = h. Fire only = f. Turn only = t + course. Turn and move t + course + m. Turn and fire = t + course + f. Course controls are 1 = up, 5 = down, 7 = left, 3 = right with 0, 2, 4 and 6 controlling diagonal movements. Key ENTER after input.

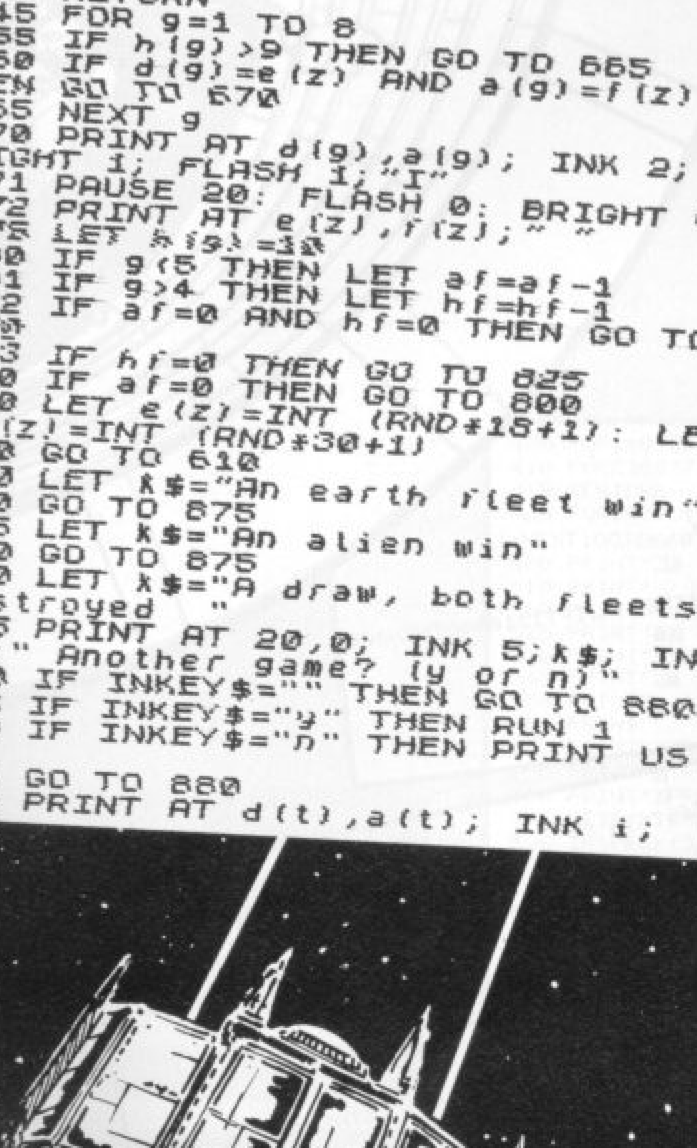
As an example, to turn and fire using a ship that is on course "3" input "t5f". This will change the ship's course so it is facing downscreen and the laser cannon will fire.

A ship may be turned to any one of the eight directions except a directly opposite one.

```
 175 IF LEN m$>3 THEN GO TO 170
 180 IF LEN m$=2 THEN GO TO 400
 181 IF LEN m$=3 THEN GO TO 202
 185 IF LEN m$<>1 THEN GO TO 170
 190 IF m$="f" THEN GO TO 950
 195 IF m$="h" THEN GO TO 365
 200 IF m$="m" OR m$="x" THEN GO
TO 210
 201 IF LEN m$=1 THEN GO TO 170
 202 IF ABS (p(t)-VAL m$(2))=4 T
HEN GO TO 170
 203 IF m$(3)="m" THEN LET tm=1
 204 IF CODE m$(3)=102 THEN GO T
O 400
 206 IF m$(3)="m" THEN GO TO 400
 208 GO TO 170
 210 LET fp=0: LET tm=0
 215 IF m$="x" THEN LET fp=1
 220 FOR q=1 TO s(t)
 222 BRIGHT 0: PRINT AT d(t),a(t
);" "
 225 IF p(t)<3 THEN LET d(t)=d(t
)-1
 230 IF p(t)>3 AND p(t)<7 THEN L
ET d(t)=d(t)+1
 235 IF p(t)=0 OR p(t)>5 THEN LE
T a(t)=a(t)-1
 240 IF p(t)>1 AND p(t)<5 THEN L
ET a(t)=a(t)+1
 245 IF d(t)<0 THEN LET d(t)=d(t
)+20
 246 IF d(t)>19 THEN LET d(t)=d(
t)-20
 247 IF a(t)<0 THEN LET a(t)=a(t
)+32
 248 IF a(t)>31 THEN LET a(t)=a(
t)-32
 250 IF ATTR (d(t),a(t))=2 THEN
GO TO 500
 253 IF ATTR (d(t),a(t))=5 THEN
GO TO 2000
 255 IF SCREEN$ (d(t),a(t))<>" "
 THEN GO TO 290
 256 IF t>4 THEN GO TO 262
 260 PRINT AT d(t),a(t); INK 4;C
HR$ (p(t)+144)
 261 GO TO 263
 262 PRINT AT d(t),a(t); INK 6;C
HR$ (p(t)+144)
 263 IF rh=1 THEN GO TO 146
 265 NEXT q
 267 IF fp=1 THEN GO TO 950
 270 GO SUB 600
 275 GO TO 146
 290 FOR l=1 TO 8
 295 IF l=t THEN GO TO 305
 300 IF d(l)=d(t) AND a(l)=a(t)
THEN GO TO 310
 305 NEXT l
 310 PRINT AT d(t),a(t); INK 2;
BRIGHT 1; FLASH 1;CHR$ (p(t)+144
)
 312 PAUSE 20: FLASH 0: BRIGHT 0
 315 PRINT AT d(t),a(t);" "
 320 LET h(t)=10: LET h(l)=10
 321 IF l<5 THEN LET af=af-1
 322 IF l>4 THEN LET hf=hf-1
 325 IF t<5 THEN LET af=af-1
 330 IF t>4 THEN LET hf=hf-1
 335 IF af=0 AND hf=0 THEN GO TO
650
 345 IF af=0 THEN GO TO 800
 350 IF hf=0 THEN GO TO 825
 357 GO SUB 600
 360 GO TO 146
 365 PRINT AT d(t),a(t);" "
 370 LET d(t)=INT (RND*20): LET
a(t)=INT (RND*32): LET p(t)=INT
(RND*8)
 372 LET rh=1
 375 GO TO 250
 400 IF m$(1)<>"t" OR CODE m$(2)
<48 OR CODE m$(2)>55 THEN GO TO
170
 401 IF ABS (p(t)-VAL m$(2))=4 T
HEN GO TO 170
 402 LET fp=0
 403 IF LEN m$=2 THEN GO TO 405
```



```
 404 LET fp=1
 405 LET p(t)=VAL m$(2)
 410 IF t>4 THEN GO TO 425
 415 PRINT AT d(t),a(t); INK 4;C
HR$ (p(t)+144)
 416 IF tm=1 THEN GO TO 210
 418 IF fp=1 THEN GO TO 950
 419 GO SUB 600
 420 GO TO 146
 425 PRINT AT d(t),a(t); INK 6;C
HR$ (p(t)+144)
 426 IF tm=1 THEN GO TO 210
 428 IF fp=1 THEN GO TO 950
 429 GO SUB 600
 430 GO TO 146
 500 LET h(t)=10: REM hit rock
 505 PRINT AT d(t),a(t); INK 2;
BRIGHT 1; FLASH 1;CHR$ (p(t)+144
)
 510 PAUSE 20: FLASH 0: BRIGHT 0
 515 PRINT AT d(t),a(t);" "
 516 FOR z=1 TO 6
 517 IF d(t)=e(z) AND a(t)=f(z)
THEN GO TO 520
 518 NEXT z
 520 GO SUB 700
 525 GO TO 325
 600 LET z=INT (RND*6+1)
 605 PRINT AT e(z),f(z);" "
 610 LET n=INT (RND*3-1): LET o=
INT (RND*3-1)
 615 IF ATTR (e(z)+n,f(z)+o)=2 T
HEN GO TO 610
 617 IF ATTR (e(z)+n,f(z)+o)=5 T
HEN GO TO 610
 620 IF e(z)+n<0 OR e(z)+n>19 TH
EN GO TO 700
 625 IF f(z)+o<0 OR f(z)+o>31 TH
EN GO TO 700
 630 LET e(z)=e(z)+n: LET f(z)=f
(z)+o
 634 IF SCREEN$ (e(z),f(z))<>" "
THEN GO TO 645
 635 PRINT AT e(z),f(z); INK 2;"
I"
 641 RETURN
 645 FOR g=1 TO 8
 655 IF h(g)>9 THEN GO TO 665
 660 IF d(g)=e(z) AND a(g)=f(z)
THEN GO TO 670
 665 NEXT g
 670 PRINT AT d(g),a(g); INK 2;
BRIGHT 1; FLASH 1;"I"
 671 PAUSE 20: FLASH 0: BRIGHT 0
 672 PRINT AT e(z),f(z);" "
 675 LET h(g)=10
 680 IF g<5 THEN LET af=af-1
 681 IF g>4 THEN LET hf=hf-1
 682 IF af=0 AND hf=0 THEN GO TO
850
 683 IF hf=0 THEN GO TO 825
 690 IF af=0 THEN GO TO 800
 700 LET e(z)=INT (RND*18+1): LE
T f(z)=INT (RND*30+1)
 710 GO TO 610
 800 LET k$="An earth fleet win"
 810 GO TO 875
 825 LET k$="An alien win"
 840 GO TO 875
 850 LET k$="A draw, both fleets
destroyed "
 875 PRINT AT 20,0; INK 5;k$; IN
K 7;" Another game? (y or n)"
 880 IF INKEY$="" THEN GO TO 880
 885 IF INKEY$="y" THEN RUN 1
 890 IF INKEY$="n" THEN PRINT US
R 0
 891 GO TO 880
 950 PRINT AT d(t),a(t); INK i;
BRIGHT 0;CHR$ (p(t)+144)
 952 LET fp=0: LET b=INT (RND*6+
2)
 955 IF s(t)=5 THEN LET b=10
 960 LET fd=d(t): LET fa=a(t)
 965 FOR h=1 TO b
 970 IF p(t)<3 THEN LET fd=fd-1
 975 IF p(t)>3 AND p(t)<7 THEN L
ET fd=fd+1
 980 IF p(t)>1 AND p(t)<5 THEN L
ET fa=fa+1
 985 IF p(t)=0 OR p(t)>5 THEN LE
T fa=fa-1
 986 IF fd<0 OR fd>19 THEN GO TO
 146
 987 IF fa<0 OR fa>31 THEN GO TO
 146
 990 IF ATTR (fd,fa)=2 THEN GO T
O 1015
 991 IF ATTR (fd,fa)=5 THEN GO T
O 1015
 995 IF SCREEN$ (fd,fa)<>" " THE
N GO TO 1020
1000 PRINT AT fd,fa; INK 2; BRIG
HT 1;"*"
1002 PAUSE 2
1005 PRINT AT fd,fa;" "
1010 NEXT h
1015 BRIGHT 0
1016 GO SUB 600
1017 GO TO 146
1020 FOR g=1 TO 8
1025 IF d(g)=fd AND a(g)=fa THEN
 GO TO 1035
1030 NEXT g
1035 PRINT AT d(g),a(g); INK 2;
BRIGHT 1;CHR$ (p(g)+144)
1040 LET h(g)=h(g)+INT (RND*8+3)
1045 IF h(g)>9 THEN PRINT AT fd,
fa; BRIGHT 0;" "
1050 IF h(g)>3 AND h(g)<8 THEN L
ET s(g)=3
1055 IF h(g)>7 AND h(g)<10 THEN
LET s(g)=1
1056 IF h(g)>9 THEN GO TO 1070
1057 PAUSE 10
1058 LET i=6
1059 IF t>4 THEN LET i=4
1060 PRINT AT d(g),a(g); INK i;
BRIGHT 0;CHR$ (p(g)+144)
1065 GO TO 146
1070 IF g<5 THEN LET af=af-1
1075 IF g>4 THEN LET hf=hf-1
1076 IF af=0 AND hf=0 THEN GO TO
 850
1080 IF af=0 THEN GO TO 800
1085 IF hf=0 THEN GO TO 825
1093 GO SUB 600
1095 GO TO 146
2000 PRINT AT d(t),a(t); BRIGHT
1; INK 5;"I"
2005 PAUSE 10
2010 PRINT AT d(t),a(t); BRIGHT
0;" "
2015 LET h(t)=10: LET g=t: GO TO
 1070
3000 INK 7: PRINT AT 4,4;"";AT 5,4;"";AT 6,4;"";AT 7,7;"";AT 8,4;""
3001 PRINT AT 11,9;"";AT 12,9;"";AT 13,9;"";AT 14,9;"";AT 15,9;""
3002 PRINT AT 19,10;"© P.W.NORRI
S": PAUSE 200: INK 0: CLS : GO T
O 2
```

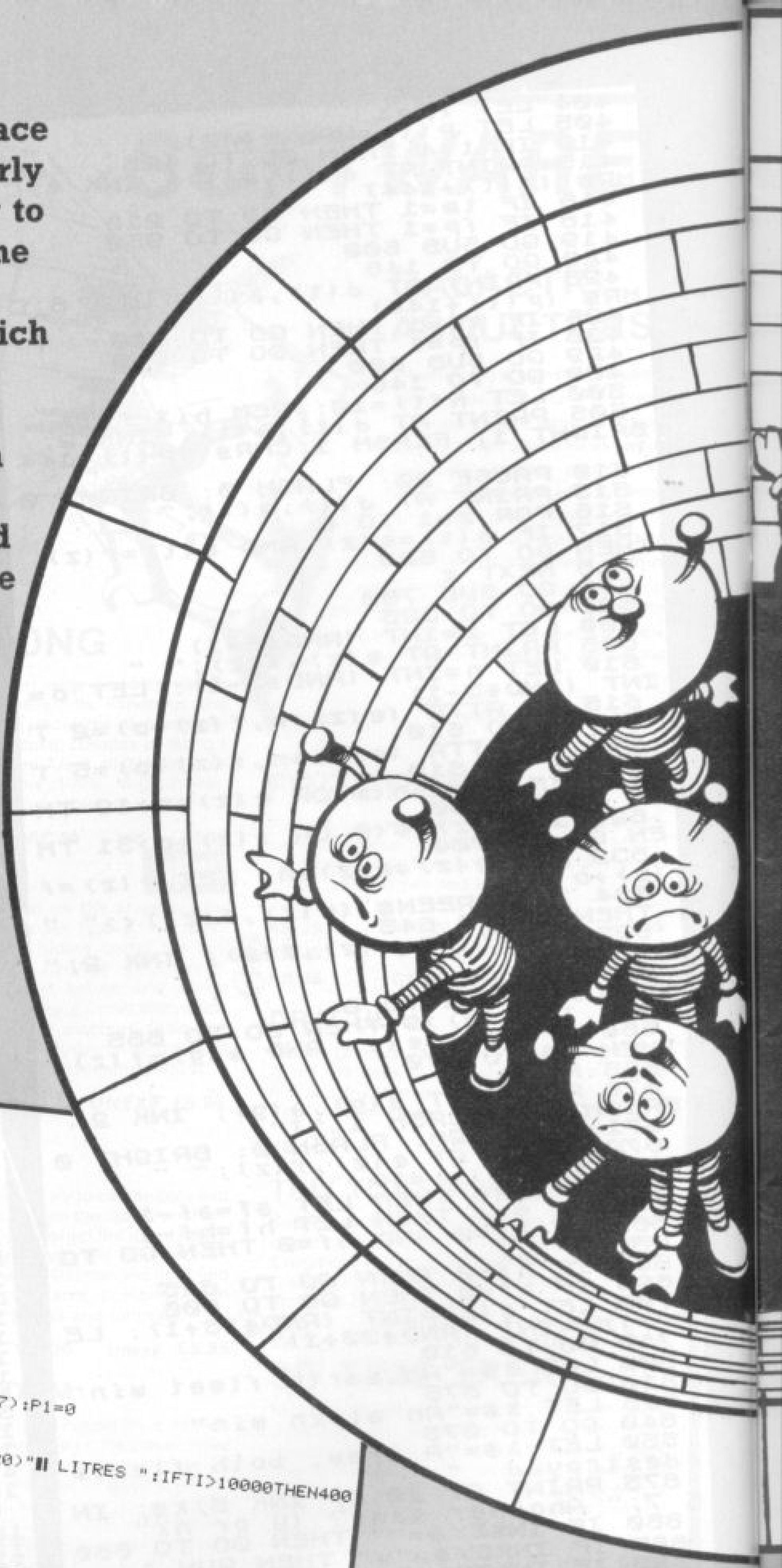


As a member of the intergalactic peace force you are making one of the yearly checks on the planet Weidoo — only to find that it has been attacked by some alien force.

As you search the outer dome, which has been badly damaged. You sense that you are being followed. After a quick radar scan you detect an alien being following you.

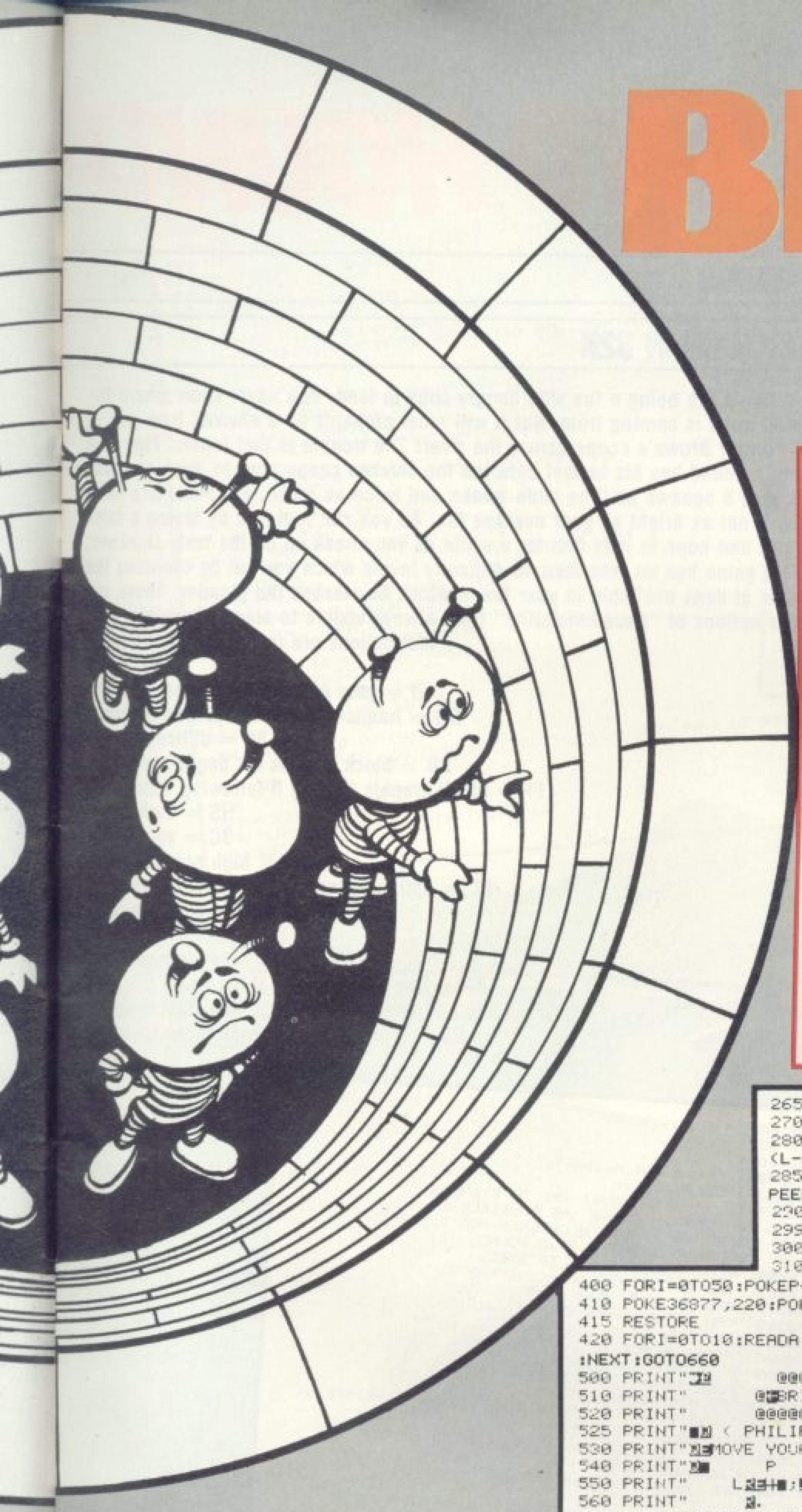
As you are on a peace mission and unarmed, your only chance to escape is to build a force wall around the alien so that you can capture and question him.

On the planet Weidoo the low gravity gives you great strength to move the portions of brick wall around. But you must watch out for your oxygen level, which is displayed at the bottom of the screen.



```
5 POKE46,26:POKE45,150:POKE56,28:POKE55,0:CLR
6 DEFFNY(XY)=INT((XY-7680)/22)
7 DEFFNX(XY)=XY-7680-22*FNY(XY)
8 D=9:POKE37139,0:POKE37154,127
10 POKE36869,255:POKE36879,90:POKE36878,15:OF=30720
15 GOSUB500
20 PRINTCHR$(8)"▓▓↑↑↑↑↑↑↑↑↑↑↑↑↑↑↑↑↑↑↑↑↑!";
30 FORI=0TO18:PRINT"J▓
40 PRINT"#░░░░░░░░░░░░░░░░░░░░░"CHR$(34)        ▓#";:NEXT
50 FORI=0TOD*5+40
60 R=INT(RND(1)*461)+7680:IFPEEK(R)<>32THEN60
70 POKER,0:NEXT
80 P=7703
90 L=8118:POKEL,28:POKEL+OF,4
95 TI$="000000"
100 P=P+P1:POKEP,27:POKEP+OF,6:K=PEEK(197):H=PEEK(37137):P1=0
101 IFTI/D=INT(TI/D)THENGOSUB200
102 IFP=LTHEN400
105 PRINT"▓QQQQQQQQQQQQQQQQQQQQQQ▓OXYGEN▓:▓"500-INT(TI/20)"▓ LITRES ":IFTI>10000THEN400
110 IFK=13OR(HAND4)=0THENP1=P1-22
120 IFK=21OR(HAND16)=0THENP1=P1-1
130 IFK=22OR(PEEK(37152)AND128)=0THENP1=P1+1
140 IFK=37OR(HAND8)=0THENP1=P1+22
145 IFP1=0THEN100
```

```
150 O=P
156 POKE36876,250:FORI=0TO10:NEXT:POKE36876,0
160 Z=PEEK(O+P1):IFZ=32THEN190
165 IFZ>27THENP1=0:GOTO100
170 O=O+P1:GOTO160
190 FORI=O+P1TOPSTEP-P1:POKEI,PEEK(I-P1):NEXT
199 POKEP,32:POKEP+OF,2:GOTO100
200 L1=SGN(FNX(P)-FNX(L))+22*(SGN(FNY(P)-FNY(L)))
225 Z=PEEK(L+L1):IFZ<>32ANDZ<>27THEN250
230 POKEL,32:POKEL+OF,2:L=L+L1:POKEL,28:POKEL+OF,4
240 RETURN
250 F=0:L1=0:POKE36874,128:FORI=0TO20:NEXT:POKE36874,0:IFRND(1)<.5THENF=1:GOTO260
251 F=0:TP=22*(INT(RND(1)*3)-1):IFTP=0THEN251
252 IFPEEK(L+TP)=32THEN299
255 IFPEEK(L-TP)=32THENTP=-TP:GOTO299
260 TP=INT(RND(1)*3)-1:IFTP=0THEN260
261 IFPEEK(L-TP)=32THENTP=-TP:GOTO299
```



BRICK ~UP

VARIABLES:

FNX	**Finds X coordinate.**
FNY	**Finds Y coordinate.**
D	**Difficulty level.**
P	**Your position.**
L	**Aliens position.**
PI	**Number to add to P to give new position**
K	**Number corresponding to key held down.**
H	**Number corresponding to joystick position.**
Q	**Position to test for bricks.**
LI	**Number to add to L to give new alien position.**
TP	**Random number to add to L if blocked**
TL	**Time when finished.**
SC	**Score.**
HI	**High-score.**

```
265 IFPEEK(L+TP)=32THEN299
270 IFF=1THEN251
280 IFPEEK(L-1)=32ORPEEK(L+1)=32ORPEEK(L+22)=32ORPEEK
(L-22)=32THEN299
285 IFPEEK(L-21)=32ORPEEK(L+21)=32ORPEEK(L+23)=32OR
PEEK(L-23)=32THEN299
290 GOTO600
299 L1=L1+TP
300 IFPEEK(L+L1)<>32THENRETURN
310 GOTO230
400 FORI=0TO50:POKEP+OF,1:POKEP,38:POKEP,39
410 POKE36877,220:POKE36877,128:NEXT:POKE36877,0
415 RESTORE
420 FORI=0TO10:READA:POKE36875,A:READB:FORJ=0TOB*200:NEXT:POKE36875,0
:NEXT:GOTO660
500 PRINT"■■      @@@@@@@@@"
510 PRINT"        @■BRICKUP■@"
520 PRINT"        @@@@@@@@@"
525 PRINT"■■ ( PHILIP SMITH 1983"
530 PRINT"■■MOVE YOUR MAN ■[■ WITH       KEYS■:
540 PRINT"■■       P
550 PRINT"      L■■+■:■  ■OR JOYSTICK■"
560 PRINT"       ■.
570 PRINT"■■PUSHING BRICKS ■■■ IN      FRONT OF YOU■."
580 PRINT"■TRAP ALIEN ■£■ IN ONE        SPACE TO WIN"
590 PRINT"■PRESS ■>■ TO START■,■■*■ TO      CHANGE LEVEL■"
595 GETA$:IFA$="■"OR(PEEK(37137)AND4)=0THEND=D-1:IFD=0THEND=9
596 IF(PEEK(37137)AND4)=0THEN596
597 PRINT"■LEVEL"10-D"■"
598 IFA$<>"■"ANDNOT((PEEK(37137)AND32)=0)THEN595
599 RETURN
600 TL=TI:FORI=0TO50:POKEL+OF,7:POKEL,38:POKEL,39
610 POKE36877,220:POKE36877,128:NEXT:POKE36877,0
620 FORI=128TO240STEP10
630 FORJ=ITOI+15:POKE36876,J:NEXT:NEXT:POKE36876,0
635 SC=100*(10-D)+500-INT(TL/20)
640 PRINT"■■■■■■■■■SCORE "SC
650 IFSC>HSTHENHS=SC:PRINT"■■■■■■■BEST SCORE ■!":GOTO670
660 PRINT"■■■■■■■■■■HIGH SCORE "HS
670 PRINT"■■■PRESS ■>■ TO CONTINUE"
680 GETA$:IFA$<>"■"ANDNOT((PEEK(37137)AND32)=0)THEN680
685 IF(PEEK(37137)AND32)=0THEN685
690 GOTO15
1000 DATA195,3,195,2,195,1,195,2,203,2,201,1,201,2,195,1,
195,2,191,1,195,3
```

BY PHILIP SMITH

RUNS ON AN UNEXPANDED VIC-20 JOYSTICK OR KEYBOARD

FOX AND HOUND



BY A. C. EDWARDS

RUNS ON A DRAGON IN 32K

It's a dog's life being a fox with hungry cubs to feed. You never know where the next meal is coming from. But it will most probably be a chicken from one of Farmer Brown's coops across the river! The trouble is that faithful Fido, the farmer's hound has his kennel between the chicken coops, and as soon as those birds give a squawk he'll be wide awake and twice as mean. But Fido, like most hounds, it not as bright as your average fox. So you can fool him by laying a false trail and hope to lose him for a while as you sneak up on the tasty chickens.

This game has no less than 10 difficulty levels which you set by choosing the number of dens available to your fox in which he stashes the plunder. There are four options of "hound visibility" from always visible to always invisible. Full instructions are included in the listing.

Variables

U = your position in Screen memory.
DG = hounds position in screen memory.
SL = difficulty level.
BB = block graphic for dog if searching.
FF = block graphic for dog if following scent trail.
HS = high score.
SC = your score.
N$ = high scorers name.
DL = option chosen (determines BB and FF).
A,X = loop counters.
DM = dogs movement.
MU = your movement.
CF = flag variable (=l if fox has a chicken).
SF = flag variable (=l until you steal first chicken).
R$ = holds string characters for the river.

```
10 'fox and hound by A.C.EDWARDS
20 DATA 32,-32,1,-1
30 'instructions
40 CLS3:PRINT@41,"-fox and hound-";
50 PRINT@96,STRING$(32,214);
60 PRINT@161,"YOU, THE FOX MUST TRY TO STEAL";
70 PRINT@193,"AS MANY CHICKENS  AS POSSIBLE ";
80 PRINT@225,"FROM THE FARMER'S CHICKEN HUT ";
90 PRINT@257,"WHICH IS GUARDED BY A HOUND    ";
100 PRINT@289,"WITH A GOOD SENSE OF SMELL     ";
110 PRINT@321,"YOU MUST TAKE YOUR CHICKENS TO";
120 PRINT@353,"ONE OF YOUR DENS  BEFORE YOU  ";
130 PRINT@385,"CAN GET ANOTHER CHICKEN BUT   ";
140 PRINT@417,"THE DOG IS ON YOUR SCENT
150 PRINT@485,"PRESS SPACE TO CONTINUE";
160 IF INKEY$<>" " THEN GOTO160
170 CLS6:PRINT@103,"FOX=";CHR$(159);
180 PRINT@135,"HOUND=";CHR$(191);
190 PRINT@167,"YOUR SCENT=.";:PRINT@199,"DEN=O";:PRINT@231,
"CHICKEN=C";:PRINT@263,"TREE=^";
200 PRINT@384:INPUT"LEVEL(1-10)-1 IS HARDEST";SL
210 IF SL<1 OR SL>10 THEN200
220 CLS4:PRINT@8,"select option";:PRINT@96,"1-DOG ALWAYS
INVISIBLE"
230 PRINT"2-DOG ONLY VISIBLE WHEN ON YOUR SCENT"
240 PRINT"3-DOG ONLY VISIBLE WHEN OFF YOUR SCENT"
250 PRINT"4-DOG ALWAYS VISIBLE"
260 INPUT DL
270 IF DL<1 OR DL>4 THEN260
280 ON DL GOSUB 290,300,310,320:GOTO340
290 BB=143:FF=143:RETURN
300 BB=143:FF=191:RETURN
310 BB=191:FF=143:RETURN
320 BB=191:FF=191:RETURN
330 'variables
340 HS=5:N$="COMPUTER"
350 L$=STRING$(3,227):L1$=STRING$(3,236):BL$=STRING$(3,143)
360 CC$(1)=CHR$(225)+L$+BL$+L$+BL$+L$+CHR$(226)
370 CC$(2)=CHR$(229)+BL$+BL$+BL$+BL$+BL$+CHR$(234)
380 CC$(3)=CHR$(228)+L1$+BL$+L1$+BL$+L1$+CHR$(232)
390 R1$=STRING$(7,175):R2$=CHR$(143):RI$=R1$+R2$+R1$+R2$
+R1$+R2$+R1$
400 SC=0:SF=1:DM=-1:CF=0:DG=1449
410 'set up scenery
420 CLS1
430 FOR A=1TO50-SL:POKE RND(233)+1024,94:NEXT
440 FOR A=1055 TO 1535 STEP32:POKE A,128:NEXT
```

```
450 FOR A=1TO3
460 PRINT@(A*32)+353,CC$(A);
470 NEXT
480 POKE1442,67:POKE DG,191
490 PRINT@224,RI$;
500 FOR A=1TO SL
510 BU=RND(159)+1024:IF PEEK(BU-1) AND PEEK(BU+1)<>143
THEN 510
520 POKE BU,79
530 NEXT
540 PRINT@256,"RIVER";
550 PRINT@353,"HUTS     DOG";
560 FOR A=1TO1000:NEXTA
570 PRINT@256,BL$+BL$;
580 PRINT@353,BL$+BL$+BL$+BL$;
590 U=RND(511)+1024:IF PEEK(U)<>143 THEN 590 ELSE POKE U,159
600 'begin game
610 'move u
620 IF PEEK(341)=223 THEN MU=-32:GOTO670
630 IF PEEK(342)=223 THEN MU=32:GOTO670
640 IF PEEK(343)=223 THEN MU=-1:GOTO670
650 IF PEEK(344)=223 THEN MU=1:GOTO670
660 GOTO760
670 IF U+MU<1024 OR U+MU>1535 THEN 760
680 PP=PEEK(U+MU)
690 IF PP=143 OR PP=110 THEN740
700 IF U+MU=DG THEN GOTO1130
710 IF PP=67THEN GOSUB 960:GOTO760
720 IF PP=79 AND CF=1THEN GOSUB 1070:GOTO760
730 GOTO760
740 POKEU,110:U=U+MU:POKEU,159
750 'move dog if searching
760 IF FL=1 THEN 860
770 IF DG+DM<1024 OR DG+DM>1535 THEN GOSUB 1020:GOTO620
780 IF RND(10)=7 THEN GOSUB1020
790 PP=PEEK(DG+DM)
800 IF PP=143 THEN 840
810 IF PP=110 THEN GOTO860
820 IF PP=159 THEN 1130
830  GOSUB1020:GOTO620
840 IF SF=1 THEN 620 ELSE POKE DG,143:DG=DG+DM:POKE DG,BB:
GOTO620
850 'move dog if on scent
860 POKE&HFFD7,0:FL=1
870 PLAY"T255O1L1;"+STR$(RND(11))
880 RESTORE
```

```
890 FOR X=1TO4:READ DM
900 PP=PEEK(DG+DM)
910 IF PP=110 THEN950
920 IF PP=159 THEN 1130
930 IF PP<>110 THEN NEXT
940 POKE&HFFD6,0:FL=0:GOTO620
950 POKE DG,143:POKEDG+DM,FF:DG=DG+DM:POKE &HFFD6,0:GOTO620
960 'grab a chicken
970 SF=0
980 IF PEEK(1442)=67 THEN POKE 1442,143 ELSE POKE 1456,143
990 CF=1
1000 SOUND RND(255),1:RETURN
1010 'new course for dog
1020 V=RND(4):ON V GOTO1030,1040,1050,1060
1030 DM=-32:RETURN
1040 DM=32:RETURN
1050 DM=-1:RETURN
1060 DM=1:RETURN
1070 'Put chicken in den
1080  SC=SC+1:CF=0:IF RND(2)=1 THEN POKE 1442,67ELSE
POKE1456,67
1090 PLAY"T255O2V31ABCDEFGABCDEFGABCDEFG"
1100 PRINT@500,"score=";SC;
1110 RETURN
1120 'your dead
1130 POKE U,191:PLAY"O1T100V31ABCDEFG":FOR A=1TO500:NEXT:CLS6
1140 POKE&HFFD6,0
1150 PLAY"T50O3V31GFEDCBAABCDEFGT255ABBBBAACEFDDGGG"
1160 PRINT@5,"YOU GOT ";SC;"CHICKENS";
1170 IF SC>HS THEN HS=SC:PRINT@97,"you have beaten the high
score";:PRINT@171,"YOUR NAME";:INPUT N$
1180 PRINT@289,"hi score";HS;"held by-";N$;
1190 PRINT@355,"ON LEVEL ";SL;"OPTION"DL;
1200 PRINT@418,"PRESS SPACE KEY FOR NEW GAME";
1210 A$=INKEY$
1220 IF A$=" " THEN GOTO400
1230 GOTO1210
```



Illustration: Dorian Cross



LANDERS

Remember the mutant Landers from Defender, the big-daddy of all video games? Well, they are back — and twice as mean! They are still out to attack all human life wherever they find it! Move your laser base and shoot down the swerving landers as they swarm down towards the planet's surface.

The higher the lander is when you shoot it the more points you score. You lose energy each time you fire — but regain it if you manage to hit a lander.

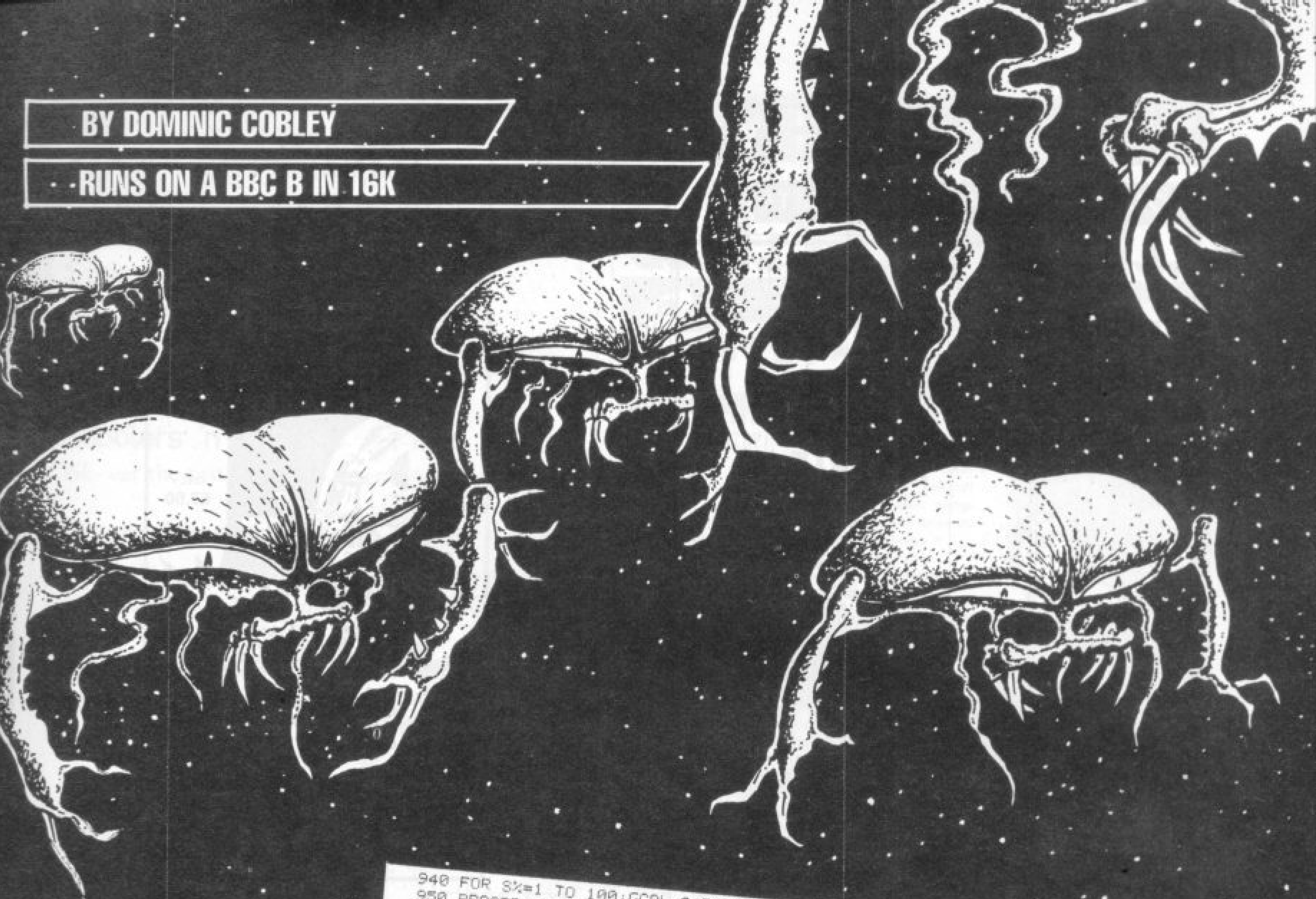
If you run out of energy, crash into a lander, or let two alien craft land you'll lose a life. The game ends when you lose all three lives, and you get an extra life at 2,000 points.

```
 10 REM
 20 REM ****************************
 30 REM *++++++++++++++++++++++++++*
 40 REM *+  LANDERS               +*
 50 REM *+ By Dominic Cobley,     +*
 60 REM *+ Daniel Cobley, and     +*
 70 REM *+ Christopher Mitchell.  +*
 80 REM *++++++++++++++++++++++++++*
 90 REM ****************************
100 REM
110 ON ERROR GOTO 1500
120 VDU 23,224,255,255,255,255,255,255,255,255
130 VDU 23,225,1,7,15,27,63,97,99,240
140 VDU 23,226,128,224,240,216,252,134,198,15
150 L1$=CHR$(225)+CHR$(226)
160 VDU 23,228,24,24,126,126,255,255,255,255
170 VDU 23,229,34,2,89,231,45,23,2,3
180 VDU 23,230,23,76,34,2,45,128,67,56
190 VDU 23,231,116,68,70,119,69,68,116,0
200 VDU 23,232,187,162,162,187,162,162,186,0
210 VDU 23,233,29,161,161,32,172,164,156,0
220 VDU 23,234,64,72,72,128,136,136,128,0
230 VDU 23,235,230,136,136,232,40,40,230,0
240 VDU 23,236,76,170,170,172,170,170,74,0
250 VDU 23,237,224,132,132,224,132,132,224,0
260 VDU 23,238,66,69,69,71,69,69,117,0
270 VDU 23,239,75,74,106,122,90,74,75,0
280 VDU 23,240,59,162,162,186,162,162,59,0
290 VDU 23,241,0,144,144,128,144,144,0,0
300 LA$=CHR$(238)+CHR$(239)+CHR$(240)+CHR$(241)
310 SC$=CHR$(235)+CHR$(236)+CHR$(237)
320 EN$=CHR$(231)+CHR$(232)+CHR$(233)+CHR$(234)
330 B$=CHR$(228)
340 H$=CHR$(229)+CHR$(230)
350 G$=CHR$(230)+CHR$(229)
360 O$=STRING$(2,CHR$(224))
370 FU$=CHR$(224)
380 SC%=0:SHIP%=3:MISS%=0:VOL%=-15:LD%=1:HIT%=0:EXTRA%=0
390 SX%=0:SY%=0:B%=575
400 MODE 7:PROCCO:PRINT TAB(0,2);"Cobleys software Brighton Presents:"
410 FOR QQ%=11 TO 12:PRINT TAB(7,QQ%)CHR$(133)CHR$(141)"GALACTIC LANDERS":NEXT
420 FOR T%=10 TO 13 STEP 3
430 PRINT TAB(8,T%)CHR$(134)STRING$(16,"_")'''':NEXT
440 PRINT TAB(1,20);CHR$(136);"Press the SPACE BAR to continue":A$=INKEY$(0):I
F A$=" " THEN 450 ELSE 440
450 CLS:PRINTTAB(4,3)CHR$(131)"""Z"""CHR$(132)"[[[ LEFT   RIGHT ]]]"CHR$(131)"
""X"""
460 PRINTTAB(7,7)CHR$(130)"""SPACE BAR"""CHR$(129)"^^^ FIRE"
470 PRINT TAB(1,20);CHR$(136);"Press the SPACE BAR to continue":A$=INKEY$(0):I
F A$=" " THEN 480 ELSE 470
480 *FX11,3
490 *FX12,3
500 *FX10,5
510 MODE 2
520 FU%=20:PROCSCORE
530 PROCPRINT(B%,120,B$,5)
540 GCOL 0,6:MOVE 0,990:DRAW 1300,990
550 GCOL 0,6:MOVE 0,80:DRAW 1280,80
560 GCOL 0,3:MOVE 0,80:DRAW 0,990
570 MOVE 1200,80:DRAW 1200,990
580 MOVE 1274,80:DRAW 1274,990
590 FOR S%=1 TO 100:GCOL 0,RND(15):PLOT 69,RND(1100)+50,RND(850)+100:NEXT
600 FOR S%=1 TO 20:PROCPRINT(1210,80+32*S%,FU$,5):NEXT
610 IF SHIP%>1 THEN FOR S%=1 TO SHIP%-1:PROCPRINT(S%*100,60,B$,5):NEXT
620 VDU4:COLOUR3:PRINT TAB(10,30);LA$;MISS%:VDU5
630 I%=INKEY(0)
640 *FX15,0
650 IF I%=90 THEN B%=B%-75:IF B%<50THEN B%=50
660 IF I%=90 THEN PROCPRINT(B%+75,120,B$,0):PROCPRINT(B%,120,B$,5):GOTO710
670 IF I%=88 THEN B%=B%+75:IFB%>1100 THEN B%=1100
680 IF I%=88 THEN PROCPRINT(B%-75,120,B$,0):PROCPRINT(B%,120,B$,5):GOTO710
690 IF I%=32 OR I%=13 THEN FU%=FU%-1:PROCFIRE:GOTO 720
700 PROCWAIT(5)
710 GOTO730
720 IF FU%<1 THEN SHIP%=SHIP%-1:LD%=1:GOTO920
730 IF HIT%=1 OR LD%=1 THEN 740 ELSE 760
740 SX%=RND(900)+20:SY%=950
750 HIT%=0:LD%=0
760 SOUND 17,VOL%,(1000-SY%)/5,2
770 PROCPRINT(SX%,SY%,L1$,0)
780 PROCPRINT(SX%,SY%,L1$,0)
790 SY%=SY%+(RND(175)-(100+(SC%/50)))
800 SX%=SX%+(RND(200)-100)
810 IF SY%>950 THEN SY%=950
820 IF SY%<150 THEN SY%=150
830 IF SX%<20 THEN SX%=20
840 IF SX%>900 THEN SX%=900
850 PROCPRINT(SX%,SY%,L1$,2)
860 SOUND 1,VOL%,(1000-SY%)/5,1
870 IF SY%>170 THEN630
880 LD%=1:PROCPRINT(SX%,SY%,L1$,0):PROCPRINT(SX%,120,L1$,2):SY%=120
890 IF B%>SX%-60 AND B%<SX%+130 THEN SHIP%=SHIP%-1:SY%=900:GOTO920
900 FOR S%=50TO150:SOUND17,VOL%,S%,2:NEXT:MISS%=MISS%+1:IF MISS%>1 THEN SHIP%=
SHIP%-1:GOTO 920
910PROCPRINT(SX%,120,L1$,0):VDU4:COLOUR3:PRINT TAB(10,30);LA$;MISS%:VDU5:GOTO
630
920 MISS%=0:FOR S%=50 TO 250:SOUND 17,VOL%,S%,1:NEXT:SOUND 0,VOL%,22,12
930 FOR S%=1 TO 20:GCOL 0,RND(7):MOVE B%-75+RND(200),50+RND(150):DRAW B%+27,90
:NEXT
```

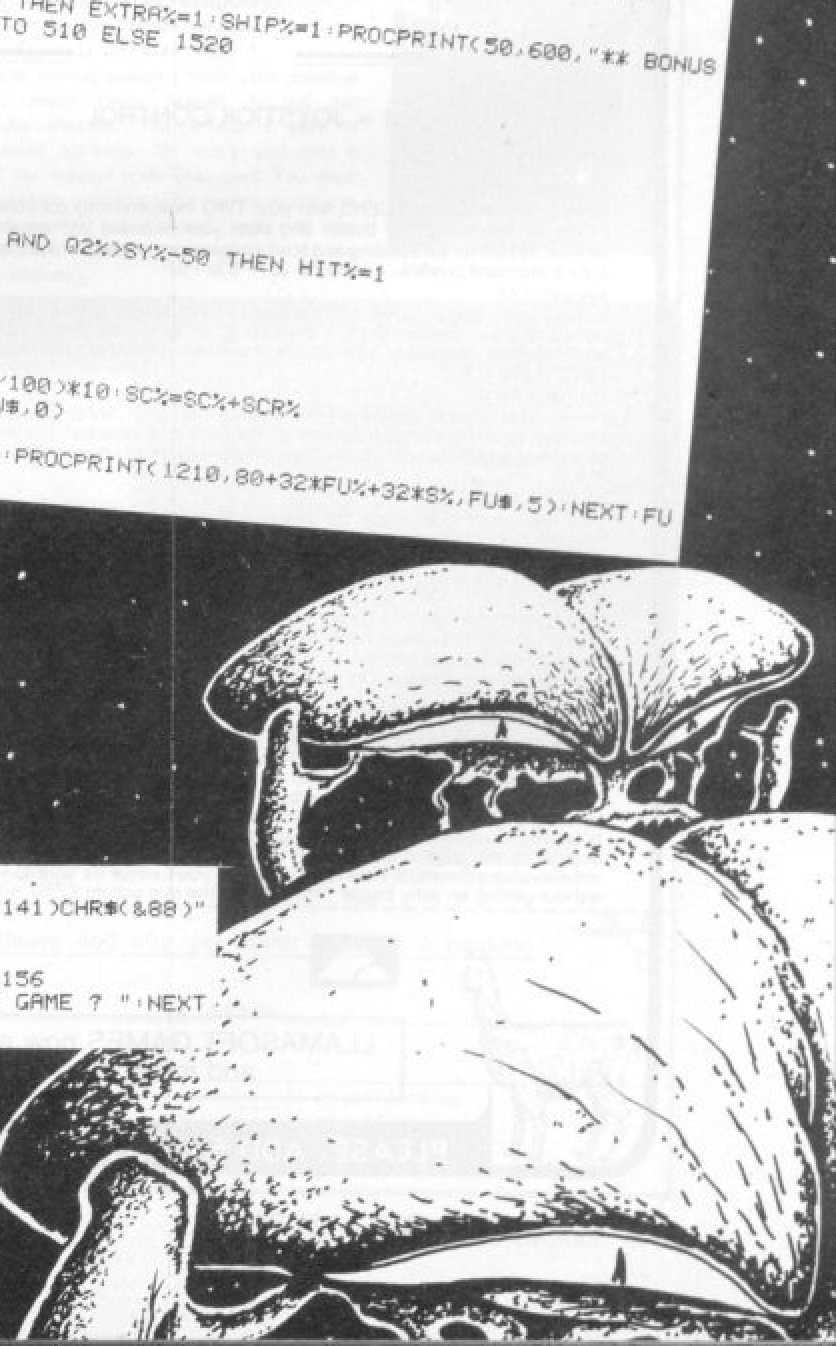
Illustration: Dorian Cross

BY DOMINIC COBLEY

RUNS ON A BBC B IN 16K



```
 940 FOR S%=1 TO 100:GCOL 0,RND(7):PLOT 69,B%-100+RND(250),60+RND(180):NEXT
 950 PROCPRINT(SX%,SY%,L1$,2)
 960 IF SHIP%>0 THEN 510
 970 IF EXTRA%=0 AND SC%>=2000 THEN EXTRA%=1:SHIP%=1:PROCPRINT(50,600,"** BONUS
LASER **",15):PROCWAIT(300):GOTO 510 ELSE 1520
 980 DEFPROCFIRE
 990 Z1%=B%+27:Q2%=130
1000 HIT%=0
1010 MOVE Z1%,Q2%
1020 GCOL 0,1
1030 SOUND 0,VOL%,12,4
1040 REPEAT
1050 Q2%=Q2%+50
1060 IF Z1%>SX% AND Z1%<SX%+120 AND Q2%>SY%-50 THEN HIT%=1
1070 PLOT 21,Z1%,Q2%
1080 UNTIL Q2%>950 OR HIT%=1
1090 GCOL 0,0
1100 MOVE Z1%,130
1110 DRAW Z1%,Q2%+5
1120 IF HIT%=1 THEN SCR%=INT(SY%/100)*10:SC%=SC%+SCR%
1130 PROCPRINT(1210,112+32*FU%,FU$,0)
1140 IF HIT%=1 THEN PROCCRASH
1150 IF HIT%=1 THEN FOR S%=1 TO 2:PROCPRINT(1210,80+32*FU%+32*S%,FU$,5):NEXT:FU
%=FU%+2
1160 PROCSCORE
1170 *FX 15,0
1180 ENDPROC
1190 DEFPROCSCORE
1200 VDU 4
1210 COLOUR1
1220 PRINTTAB(0,0);SC$;SC%
1230 COLOUR 4
1240 PRINTTAB(12,0);EN$;FU%;" "
1250 VDU 5
1260 ENDPROC
1270 DEFPROCPRINT(X%,Y%,M$,C%)
1280 GCOL 0,C%:MOVEX%,Y%
1290 PRINT M$
1300 ENDPROC
1310 DEFPROCCRASH
1320 SOUND 0,VOL%,5,8
1330 SOUND 0,VOL%,22,8
1340 PROCPRINT(SX%,SY%,L1$,0)
1350 PROCPRINT(SX%,SY%,H$,1)
1360 PROCWAIT(10)
1370 PROCPRINT(SX%,SY%,O$,0)
1380 PROCPRINT(SX%,SY%,G$,1)
1390 PROCWAIT(10)
1400 PROCPRINT(SX%,SY%,O$,0)
1410 PROCWAIT(10)
1420 PROCPRINT(SX%,SY%,STR$(SCR%),6)
1430 PROCWAIT(20)
1440 PROCPRINT(SX%,SY%,O$,0)
1450 ENDPROC
1460 DEFPROCWAIT(S%)
1470 TM%=TIME:REPEAT UNTIL TIME>TM%+S%
1480 *FX 15,1
1490 ENDPROC
1500 *FX 12,0
1510 IF ERR<>17 THEN MODE 7:REPORT:PRINT " at line ";ERL:END
1520 MODE 7:PROCCO:FOR QQ%=6 TO 7:PRINT TAB(13,QQ%)CHR$(130)CHR$(141)CHR$(&88)"
GAME OVER":NEXT
1530 SC$=STR$(SC%):SCR$="SCORE "+SC$+"  "
1540 PRINT TAB(18-LENSCR$DIV2,11);:VDU129,157,131;:PRINTSCR$;:VDU156
1550 FOR QQ%=15 TO 16:PRINT TAB(12,QQ%)CHR$(132)CHR$(141)"ANOTHER GAME ? ":NEXT
1560 A$=GET$:IFA$<>"Y"ANDA$<>"N"THEN1560
1570 IF A$="Y" THEN RUN
1580 *FX12,0
1590 MODE 7
1600 *FX15,0
1610 END
1620 DEFPROCCO:VDU 23;8202;0;0;0;:ENDPROC
1630*FX12,0
```



LLAMASOFT!!

MORE THAN JUST A PRETTY PACKET!

LLAMASOFT!!

PRESENTS

MATRIX

(GRIDRUNNER 2)

FOR VIC-20 (8K) and Commodore 64



Jeff Minter has taken Gridrunner — the game that topped bestseller charts in USA and UK — and created an awesome sequel —
Graphically superb, it features multiple screens, new aliens and attack waves, mystery bonuses, renegade humanoids, deflexor fields, diagonal tracking, count-down/panic phase and much, much more...
Packed into 20 mind-zapping zones and accompanied by incredible sonics.

N.B. MATRIX REQUIRES A JOYSTICK

FOR VIC-20: £6.00 FOR C64: £7.50

MATRIX ENTER THE ZONE OF EXCELLENCE

LLAMASOFT SOFTWARE
49 MOUNT PLEASANT,
TADLEY, HANTS,
07356 4478

LLAMASOFT!!

YES

YES, HE'S DONE IT AGAIN

JEFF MINTER's done it again, not only is Laserzone the best VIC-20 game in existence, now this action packed, mind-zapping game is soon to be released for the COMMODORE 64. Graphically superb!!

ONLY £7.50



ONLY £7.50

J = JOYSTICK CONTROL

VIC-20

LASERZONE (8K+) NEW J
Destroy the oncoming ALIENS with your TWO independently controlled laser bases! Lunge for the ELECTRO button and blast your enemies into expanding clouds of SPACE JUNK! An exhilarating and totally original game with a unique system of control from a standard joystick. A mere £6.00 + 50p P&P

ABDUCTOR J
A classic new space game! ZAP the swirling alien hordes before they ram you — and abduct your humanoids! Survive the assault for long enough and you'll get an extra stage on your spaceship with double firepower! Awesome unexpanded Vic Action. £5.00 + 50p P & P.

GRIDRUNNER J
Finally, true arcade quality on the unexpanded VIC! Shoot down the segmented DROIDS invading the grid. Beware of the pods and zappers! The awesome speed, sound and graphics gives you the best blast available for unexpanded Vic. £5.00+ 50p P & P.

ANDES ATTACK (8K) J
Your spacecraft must attack the descending aliens and frustrate their evil intent. Fly your Ramjet fighter over the Andes mountain range and protect your llamas from kidnap by hostile UFOS. Features 5 kinds of UFO, controls include up, down, reverse, fire, thrust and smart bomb. Entirely in machine code. Requires 8K expansion and joystick. £5.00 + 50p P & P.

TRAXX M/C (8K + EXPANSION) J
This is VIC-20 cross breed between the now famed 'Packman' and the game 'Quix'. All in machine code, fast and fun with joystick controls, uses Hi-Res colour graphics. 8K or larger expansion needed. Only £6.00 + 50p P & P. complete with instructions.

COMMODORE 64

ATTACK OF THE MUTANT CAMELS J
Planet Earth needs you! Hostile aliens have used genetic engineering to mutate camels from normally harmless beasts into 90 foot high, neutronium shielded, laser-spitting death camels!! Can you fly your tiny, manoeuvrable fighter over the mountainous landscape to weaken and destroy the camels before they invade the human stronghold. You must withstand withering laser fire and alien UFOs. Game action stretches over 10 screen lengths and features superb scrolling. scanner. 1/2 player actions and unbelievable animation! Play this game and you'll never be able to visit a zoo again without getting an itchy trigger finger! Awesome m/c action! £7.50 + 50p P & P.

ROX-64
Rox is a challenging game involving the defence of your lunar base from a deadly meteor shower. Rox-64 includes amazing sprite graphics displays and spacy sound effects, and an awesome 'mothership' display if you win the game. Top 10 scores are tabled along with their names. This program shows just what can be achieved using only Commodore-64 basic. Study the listing and learn how to use sprites and sound on this outstanding machine. £3.00 + 50p P & P.

GRIDRUNNER 64 J
The No 1 best game for the Vic has been improved for your COMMODORE 64! Gridrunner is a smash hit in the USA. Now experience the lightning-fast challenge of the grid on the 64. Features 31 skill levels and excellent sound and graphics. Sore trigger finger *free* with every game! £5.00+ 50p P & P.

SPECTRUM

GRAPHICS CREATOR (16K)
Not just another character editor! Allows you to define not only the 21 user definable characters. Also allows you to change the entire 96 character ASCII set. Creates BYTES files ready for you to load into your own programs. Includes advanced Reflect. Invert. Field commands etc. Complete with full documentation. Bin the BIN statement and use Graphic Creator with its easy on-screen cursor editing. £2.50 + 50p P & P.

BOMBER (16K)
Yes, a full feature version of the popular game 'Blitz', supplied for the 16K or 48K Spectrum. For only £2.50 + 50p P & P.

HEADBANGER (48K)
Colourful new game starring Chico the headbanger who you must guide to riches through an increasing shower of heavy metal. Gain bonuses for headbanging but be sure to take an aspirin when the pain gets too much! Basic + m/c to speed up action. Great graphics, nice animation. Will even drive William Stuart system's voice synthesiser to produce speech output. Can you attain the grade of 'Rocker Class One' or will you be "Barry Manilow Class 5"? Start headbanging today and find out. £4.00 NEW.

SUPERDEFLEX (48K)
Bounce 'Sid', the space invader, around the screen into the power pods keeping away of course from the devil who chases you around the screen. Steer with your Deflex shields, but beware the mines or you may be burned alive! Superb graphics and fantastic sound on the 48K Spectrum only. Only £2.50 on cassette + 50p P & P.

ATARI 400-800

GRIDRUNNER J
Now play the best selling VIC/C64 game on your ATARI 400/800. Any memory size (16-48K). Basic cartridge *not* required — 100% machine code autoboot tape. Play this awesomely fast and addictive game on your Atari. For only £7.50

TURBOFLEX
Superb ultra-fast and totally new ball game. Uses ATARI's unique features to the full. Incorporates superb colour/sound effects and uses Player/Missile graphics. Tables top 10 scores along with Scorer's name. £4.00 + 50p P & P.

ZX81

CENTIPEDE (16K)
The ORIGINAL game from the ORIGINAL author. This is the identical program to that being sold by other companies for three times our price. The game has received ecstatic reviews in the computing press. Program has 30 speed levels and ever increasing Centipede hordes. Tables top 10 scores and names. Why wait to pay more? Only £1.95+ 50p P & P.



LLAMASOFT GAMES now available in BOOTS
and many other retail outlets.

PLEASE ADD 50p TO ALL ORDERS

LLAMASOFT SOFTWARE
Dept CVG, 49 Mount Pleasant, Tadley,
Basingstoke. Hants. RG26 6BN
Tadley 07356 4478
TRADE ENQUIRIES WELCOME

ALLRIAN DATA SERVICES
1000a, Uxbridge Rd, Hayes, Middx.
UB4 ORL

ATARI

Strip Poker
disc 27.50

40k - ultra hi-res graphics - too realistic to illustrate! What mother never told you about video games!!!!

Gobblers 'n' Goblins
c-15.50 d-18.95

16k - eat the tasty morsels to ensure survival!

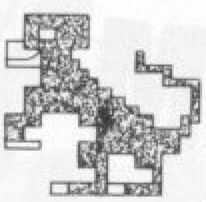
Player Missile Editor
c-24.50 d-27.95

16k - utility - access PM Graphics with ease. The companion program to **Drawpic**.

Monkey Maths
c-14.00 d-17.95

16k - our new educational program - great graphics - real arcade arithmetic!

STOP PRESS
New Catalogue out NOW
Send for details and Special Offers



VAT inc.
P&P free

Manufactured in the UK for
Artworx

SHARDS SOFTWARE
189 ETON ROAD, ILFORD, ESSEX IG1 2UQ

WE PROUDLY INTRODUCE.... FOR THE DRAGON 32...

'EMPIRE'

.... THERE IS NO HIDING PLACE ....

- ENTHRALLING NEW GAME FOR YOUR DRAGON 32
- EXCITING GAME OF STRATEGY FOR ONE PLAYER
- DESTROY THE EVIL DRAGON EMPIRE BEFORE IT CONQUERS THE WORLD
- INCLUDES 7 WORLD MAPS AND ON SCREEN SCORING
- 8 LEVELS OF DIFFICULTY
- AUTOMATIC PLAYING FEATURE .... SIT BACK AND WATCH THE WORLD BEING OVERWHELMED
- 100% HIGH RESOLUTION GRAPHICS WITH MACHINE CODE
- NO JOYSTICK NEEDED
- FULL PRINTED INSTRUCTIONS
- AVAILABLE FOR ONLY £6.95 (INC. VAT) FROM YOUR LOCAL DEALER OR BY MAIL ORDER AT THE ABOVE ADDRESS.

New from ...
MIKRO-GEN
SPECTRUM "" Software

COSMIC RAIDERS (16K) £5,95

You — the only remaining pilot of the "Earth Defence Fleet" — have the daunting task of defending the Earth from attack by alien beings that have already set up a base of their own on earth.

* Radar Scanner display in hi-res *
* Full colour and sound effects *
* From the author of Spectrum 'Scramble' *
* 100% machine code *





SPACE ZOMBIES (16K) £5,95

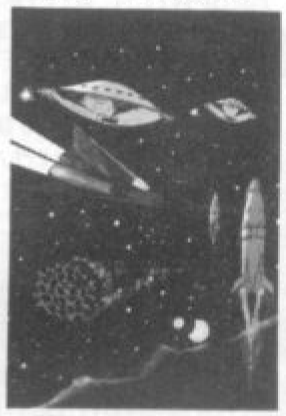
Shooting through space you are ambushed by a fleet of Space Zombies flying at you in formation, swooping and diving at you. Destroy them, if you can! But in destroying them, you attract more to the area, and the game gets progressively harder.

* Full screen hi-res graphics *
* 1 or 2 players * Joystick option *
*Full sound and colour *
*Three playing speeds *

MINES OF SATURN and RETURN TO EARTH £5,95
(16K) Text Adventure

Mines of Saturn While piloting a routine orbit of Saturn, you are caught up in a radiation storm which forces you into the giant planet's rings. Your energy drained, you make a forced landing on the planet's surface. Luckily you crashed near an abandoned mining base and you set off in search of some di-lithium crystals to refuel your stranded space ship. Can you do it?

Return to Earth Having escaped from your previous dilemmas, you reach Earth Station 1, but fail to make radio contact. You effect a safe if harrowing manual ducking. On entry you find it deserted, and the control room destroyed. You must explore the station and find some way to alert Earth of your predicament, but beware, many of the rooms are identical, there is extensive damage, and signs of alien intruders.



Graphic Adventure (48K)



MAD MARTHA £6,95

Poor little Henry is the hen-pecked hero of this domestic tale. One night he can take no more. He steals his wages from his wife's purse, sneaks out of the house being careful not to wake the baby or trip over the cat, and heads for the bright lights to have some fun. Trouble is he runs out of money. His only way to raise some cash is to gamble his few remaining pounds on the spinning wheel of the roulette table. Just as Henry is getting into his evening his wife — Mad Martha — has noticed his absence. Realising Henry has absconded with the housekeeping she sets out after him with an axe. Guess what part you play in this happy tale? That's right, you're Henry. Watch out for that axe!

Access | BARCLAYCARD VISA

Access or Visa Card holders please telephone (0344) 27317 (9am-6pm)

Please add 40p per order for post & packing

Name ________ Address ________

☐ Cosmic Raiders ☐ Space Zombies
☐ Mines of Saturn/Return to Earth ☐ Mad Martha

MIKROGEN, Dept A3, 24 Agar Crescent, Bracknell, Berkshire, RG12 2BK

LADDER MAZE



The tortuous twists and turns of this 3D maze will intrigue even the most jaded Pacman player! You'll find yourself within the walls of a graphically stunning maze — even more baffling than the one at Hampton Court. But before you start be warned — there are monsters stalking the corridors and deadly pits which must be avoided at all costs during your quest for the way out. To help you get out there is a map located somewhere in the curious corridors. Once you have found that all you have to do is avoid the lurking monsters and find ladders to help you deal with the pits! An added attraction are the transporter rooms, located behind a set of sliding doors which you'll find dotted around the maze. These transporters will help take you to different parts of the maze — but offer no real chance of escape! If you see a pair of ladders on your journey through the corridors, pick them up. You'll need them to cross the pits. If you fall into one of these holes in the maze floor the game ends. Ladders unfortunately cannot be transported — so you'll have to drop them if you want to enter a transporter room. Monsters in the maze are extremely intelligent beings and will follow you — the best tactic is to run away! If you suddenly vanish for no apparent reason a monster has leaped on you from behind!

The map is the key to your freedom. It is represented by a black square and is located in one of the many corridors. If you find it pick it up using the fire button on your joystick and then press "M" on the keyboard. You will see a plan view of the maze and the all-important transmat beam which will take you to freedom. This is marked by a cross. The map also shows your position and the direction you are facing. You must use the information to work out the best route out of the maze. There are four skill levels — if you manage to escape the first time round!

Movement is carried out entirely by the joystick. The fire button is used to open doors and pick up items.

The key to the Map is as follows: D=a door; T=a transporter; L=ladders; CIRCLE=a pit; @ a monster.

The random number generator in line 1440 determines whether or not the monsters move or not at the moment it is set to a 40% chance. But it can be lowered or increased to make the game more or less challenging. No matter what skill level you will always be able to reach a pair of ladders or a transporter when first starting.

```
10 GRAPHICS 0:POKE 752,1:CLR :RESTORE :S
ETCOLOR 2,0,0:POSITION 13,11:? "SKILL LE
VEL ";:INPUT LEV:IF LEV>4 THEN 10
20 POSITION 12,11:? "     HANG ON!    "
30 DIM M(15,15):DIM J(4):DIM K(4):DIM L(
4):DIM X2(4):DIM Y2(4):DIM A$(1):DIM M$(
10):DIM R$(4)
40 M$="  DLCT'@X":R$="NESW":ST=1:LA=1:CH
=1:LD=0:IN=10
50 FOR D=0 TO 15:READ I:M(D,C)=I:NEXT D:
C=C+1:IF C=16 THEN 70
60 GOTO 50
70 FOR D=1 TO 4:READ A,B,C:J(D)=A:K(D)=B
:L(D)=C:NEXT D
80 RA=INT(RND(0)*2+1):IF RA=1 THEN M(8,1
)=7:M(14,6)=5:GOTO 100
90 M(8,1)=5:M(14,6)=7
100 B=8:GOSUB 130:B=5:GOSUB 130:B=5:GOSU
B 130
110 B=4:FOR A=1 TO LEV*2+5:GOSUB 130:NEX
T A
120 C=0:GOTO 150
130 X=INT(RND(0)*13+1):Y=INT(RND(0)*13+1
):IF X<9 AND Y<4 OR M(X,Y)<>2 THEN 130
135 IF M(X+1,Y)=4 OR M(X-1,Y)=4 OR M(X,Y
+1)=4 OR M(X,Y-1)=4 THEN 130
140 M(X,Y)=B:RETURN
150 FOR A=1 TO LEV
160 X=INT(RND(0)*5+9):Y=INT(RND(0)*5+9):
IF M(X,Y)<>2 THEN 160
170 X2(A)=X:Y2(A)=Y:NEXT A
180 GRAPHICS 6:POKE 752,1:SETCOLOR 1,0,0
:SETCOLOR 2,LEV*3,14:SETCOLOR 4,LEV*3,14
:? "     LADDER MAZE BY P.B.JOHNSON"
250 X=1:Y=1:R=3:GOTO 270
260 X=X-F*U:Y=Y-F*V:DR=0:POKE 77,0:POKE
764,255:IF TA=1 THEN X=X+U:Y=Y+V:TA=0
270 FOR A=1 TO R:READ U,V,W,Z,O,P:NEXT A
280 Q=42:S=0:G=25:H=0:F=0
290 Q=INT(Q/1.445):G=INT(G/1.41):F=F+1
300 X=X+U:Y=Y+V:D=M(X,Y):IF D=1 OR D>=3
THEN 330
310 D=M(X+W,Y+Z):ON D GOSUB 450,470,500,
470,470,470,470,470,470
320 D=M(X+O,Y+P):ON D GOSUB 530,560,590,
560,560,560,560,560,560:GOTO 290
330 ON D GOSUB 620,1,650,670,690,1,720,7
30,740,770:IF D>3 THEN 310
340 SETCOLOR 0,LEV*3,0:SETCOLOR 4,LEV*3,
14:RESTORE 970
345 X1=X-F*U:Y1=Y-F*V:D1=M(X1,Y1):D2=M(X
1+U,Y1+V):GOSUB 1600
350 N=STICK(0):IF CH=1 THEN 360
355 IF PEEK(764)=37 THEN 1100
360 IF N=13 THEN R=J(R)
365 IF N=11 THEN R=K(R)
370 IF N=7 THEN R=L(R):IF N=14 AND F=1 A
ND D=1 THEN 350
375 IF N=14 AND F=1 AND D=1 THEN 350
380 IF N=14 AND F=1 AND D=3 AND DR=0 THE
N 350
385 IF D1=4 AND LA=0 THEN LD=1
390 IF N=14 AND F>1 THEN TA=1
400 IF D=3 AND F=1 AND DR=0 AND STRIG(0)
=0 THEN GOSUB 430
405 IF N=14 AND DR=1 THEN TA=1
410 TI=TI+1:IF N=15 THEN 350
420 GRAPHICS 6+16:SETCOLOR 0,LEV*3,14:SE
```

```
TCOLOR 4,LEV*3,14:GOTO 260
430 FOR OP=80 TO 120 STEP ST:COLOR 1:PLO
T OP,18:DRAWTO OP,95:PLOT 160-OP,18:DRAW
TO 160-OP,95
440 SOUND 0,66,12,4:NEXT OP:SOUND 0,0,0,
0:DR=1:RETURN
450 COLOR 1:PLOT 159-S,H:DRAWTO 159-(S+Q
),H+G:DRAWTO 159-(S+Q),95-(H+G):DRAWTO 1
59-S,95-H:RETURN
470 COLOR 1:PLOT 159-S,H+G:DRAWTO 159-(S
+Q),H+G:DRAWTO 159-(S+Q),95-(H+G):DRAWTO
 159-S,95-(H+G):RETURN
500 COLOR 1:PLOT 159-(S+(Q/5)),95-H-(G/5
):DRAWTO 159-(S+(Q/5)),H+G:DRAWTO 159-(S
+Q-(Q/5)),H+(G*1.4)
515 DRAWTO 159-(S+Q-(Q/5)),95-H-(G*0.8):
PLOT 159-(S+(Q/2)),H+G*1.3
520 DRAWTO 159-(S+(Q/2)),95-H-(G/2):GOSU
B 450:RETURN
530 COLOR 1:PLOT S,H:DRAWTO S+Q,H+G:DRAW
TO S+Q,95-(H+G):DRAWTO S,95-H
540 S=Q+S:H=G+H:RETURN
560 COLOR 1:PLOT S,H+G:DRAWTO S+Q,H+G:DR
AWTO S+Q,95-(H+G):DRAWTO S,95-(H+G)
570 GOSUB 540:RETURN
590 COLOR 1:PLOT S+(Q/5),95-H-(G/5):DRAW
TO S+(Q/5),H+G:DRAWTO S+Q-(Q/5),H+(G*1.4
)
600 DRAWTO S+Q-(Q/5),95-H-(G*0.8):PLOT S
+(Q/2),H+(G*1.3):DRAWTO S+(Q/2),95-H-(G/
2):GOSUB 530:RETURN
```

```
620 COLOR 1:PLOT S,H:DRAWTO 159-S,H:DRAW
TO 159-S,95-H:DRAWTO S,95-H:DRAWTO S,H:R
ETURN
650 COLOR 1:PLOT S+Q,95-H:DRAWTO S+Q,H+G
:DRAWTO 159-(S+Q),H+G:DRAWTO 159-(S+Q),9
5-H
660 PLOT 80,H+G:DRAWTO 80,95-H:GOSUB 620
:RETURN
670 COLOR 1:PLOT S+Q,95-H:DRAWTO S+Q,95-
(H+G):DRAWTO 159-(S+Q),95-(H+G):DRAWTO 1
59-(S+Q),95-H
680 PLOT S,95-H:DRAWTO 159-S,95-H:RETURN

690 COLOR LA:PLOT S+(Q*1.2),95-(H+G/3):D
RAWTO 159-(S+(Q*1.2)),95-(H+G/3):PLOT S+
(Q*1.2),95-(H+(G/1.4))
700 DRAWTO 159-(S+(Q*1.2)),95-(H+(G/1.4)
):FOR A=S+(Q*1.2) TO 159-(S+(Q*1.2)) STE
P (159-(S+(Q*1.2))-(S+(Q*1.2)))/5
710 PLOT A,95-(H+G/3):DRAWTO A,95-(H+(G/
1.4)):NEXT A:RETURN
720 COLOR 1:PLOT S+Q+40,H+G+20:DRAWTO 12
0-(S+Q),H+G+20:PLOT 80,H+G+20:DRAWTO 80,
75-(H+G):GOSUB 620:RETURN
730 COLOR CH:PLOT 80,95-(H+G/3):RETURN
740 COLOR 1:FOR A=S+(Q*2.1) TO 159-(S+(Q
*2.1)) STEP 1:PLOT A,H+(G*2):DRAWTO A,95
-(H+(G*2)):NEXT A
745 IF F>2 THEN RETURN
750 COLOR 0:PLOT S+(Q*2.3),H+(G*2.3):PLO
T 159-(S+(Q*2.3)),H+(G*2.3)
760 PLOT S+(Q*2.4),H+(G*2.8):DRAWTO 159-
(S+(Q*2.4)),H+(G*2.8):RETURN
```

COMMENTS ON LISTING

In line 40 'M$' should be typed as :-
M$=''[INV.SPACE][SPACE][INV. D]
[INV.CTRL. T]LCT[CTRL .]@[INV CTRL. X]''

BY PAUL JOHNSON

RUNS ON AN ATARI 400/800 IN 16K

WITH JOYSTICKS

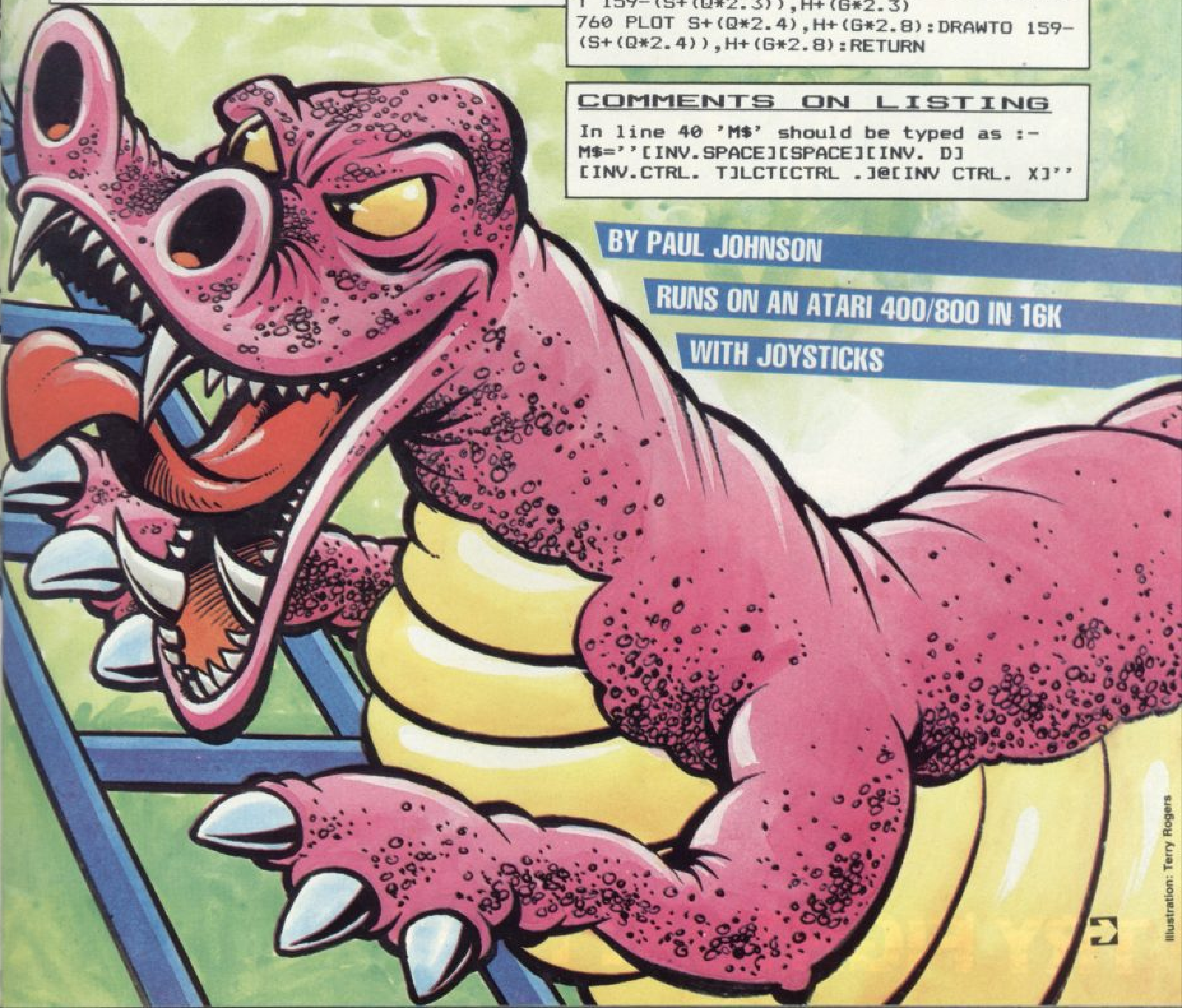


Illustration: Terry Rogers


TRY FIGHTING THESE WITH YO



YOUR BARE HANDS.

Slot "Mutant Herd" into your VIC 20 computer and all of a sudden plutonium-crazed mutants will try to eat you alive.

Keep a look-out for falling boulders. They'll crush you to death at any second.

Avoid these successfully and all you have to do is save the world by destroying the heavily guarded Mutants eggs.

"Orc Attack" (on ATARI 400/800/1200) isn't exactly childsplay either.

Imagine yourself standing on the battlements of a castle, defending your Kingdom against an army of ferocious Orcs.

Watch out for the hail of deadly crossbow bolts. You've only got two lives to lose.

And you've only got a few rocks, a sword and boiling oil to defend yourself.

Lose your head and you'll be decapitated.

If your hands aren't sweating after that try our other action packed titles.

There's "Fourth Encounter" (on VIC 20), an exciting new game with 3 skill levels.

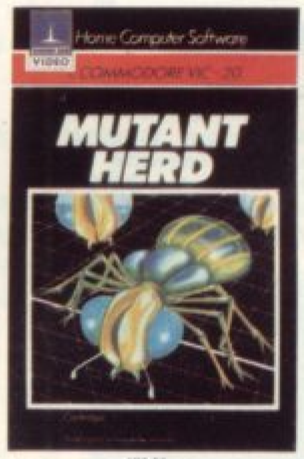
The challenging "River Rescue" and "Music Composer" are also on VIC 20.

And to make the blood rush to your head the successful "Submarine Commander" is now available on VIC 20.

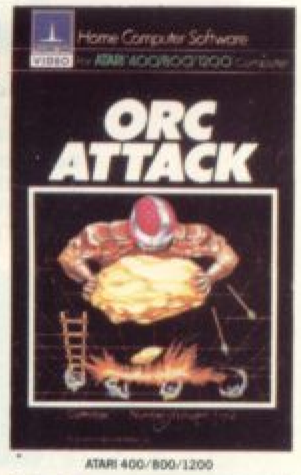
Or, if you've got ATARI 400/800/1200, there's the anxiety provoking "Jumbo Jet Pilot," as well as the best selling "Submarine Commander," "River Rescue" and "Kickback," all in the shops now.

Buy any one of THORN EMI Computer games and you'll have to fight off all your friends to use it.

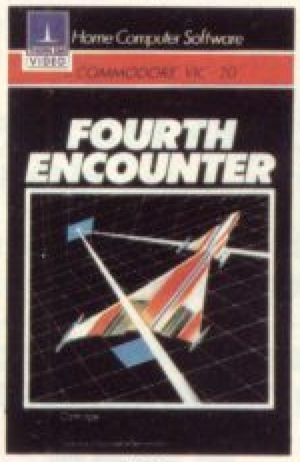
The world's greatest computer games.



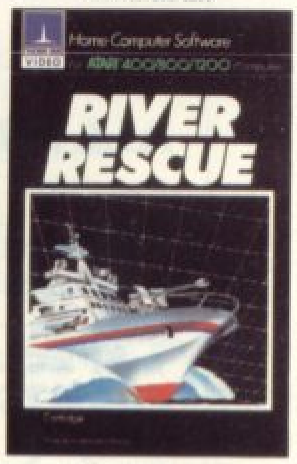
VIC 20



ATARI 400/800/1200



VIC 20



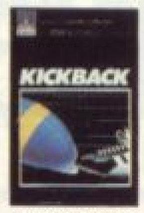
VIC 20/ATARI 400/800/1200



VIC 20/ATARI 400/800/1200



VIC 20



ATARI 400/800/1200

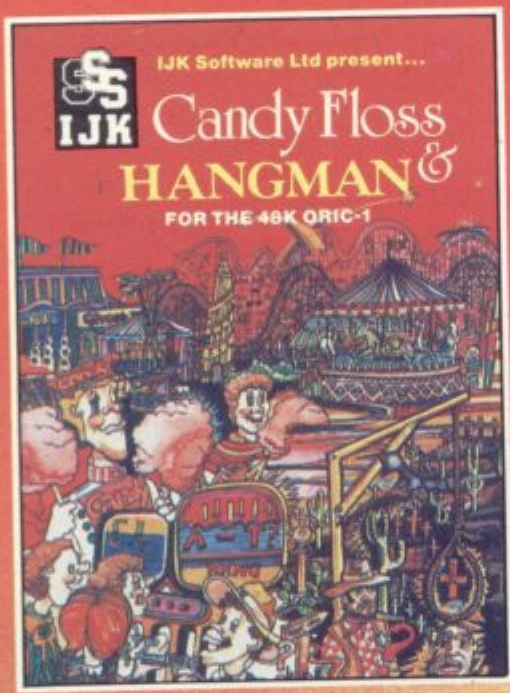


ATARI 400/800/1200

PROGRAMS FOR ATARI 400/800/1200 (Trademark of Atari Inc. except where indicated).
PROGRAMS FOR COMMODORE VIC 20 (Trademark of Commodore Electronics Ltd.).

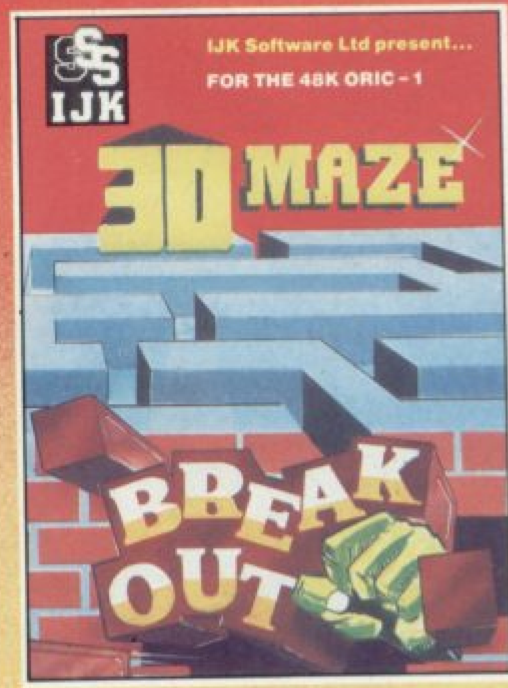
Together the ORIC-1 Micro and IJK Software bring you the dawning of a new era...

As Fleet Commander in the Xenon Space Academy, you must protect your home planet RADON from the AARDS, PARATRONS, and the ZORGON Battle Star! If you want a 100% machine code multi stage arcade game with the smoothest, meanest action around, this is the one for you – you will not buy a better arcade style game.
For the 48K ORIC-1 ONLY
Only £8.50 inc.



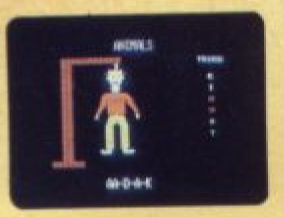


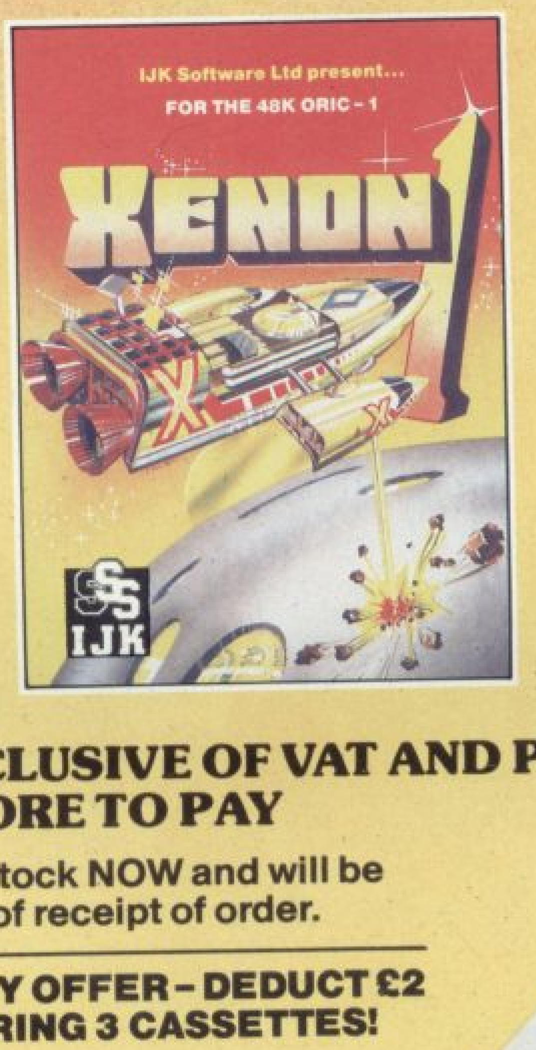






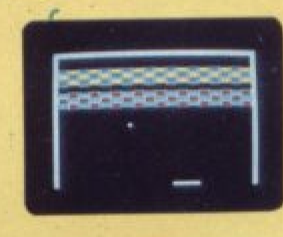
Two top educational games proven as best sellers on the BBC Micro put together here on one cassette for twice the fun on the ORIC-1 Micro for the 48K ORIC-1.
Only £7.50 inc.







Two classic games reproduced here for your ORIC-1 Micro to test your mental agility and reflexes to the full.
For the 48K ORIC-1 ONLY
Only £7.50 inc.



ALL PRICES FULL INCLUSIVE OF VAT AND P&P – NO MORE TO PAY

All advertised software is in stock NOW and will be despatched within 48 hours of receipt of order.

★ SPECIAL INTRODUCTORY OFFER – DEDUCT £2 FROM TOTAL WHEN ORDERING 3 CASSETTES!

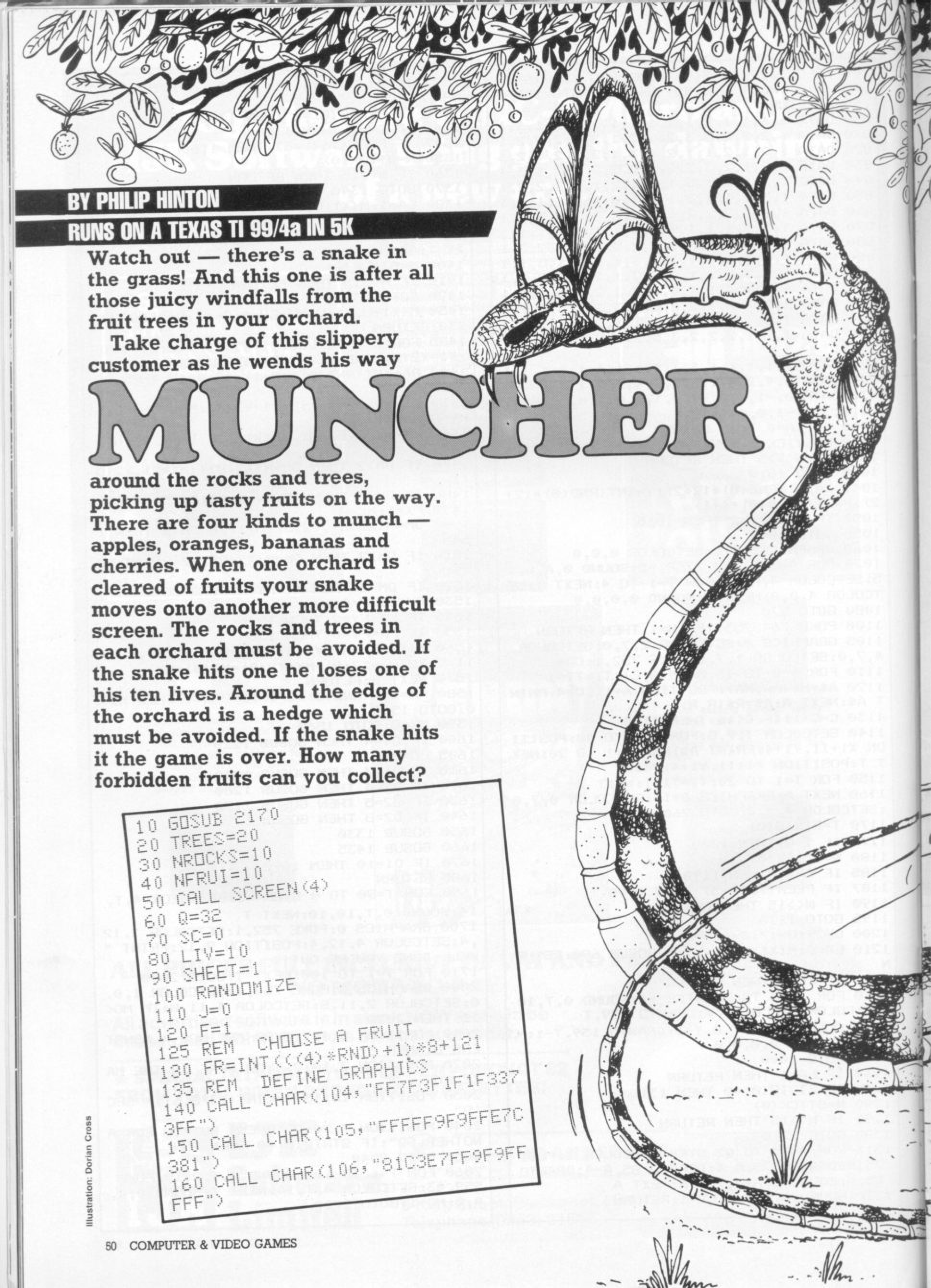
IJK Software Limited

24 HOUR ANSAFONE

9 King Street, Blackpool, Lancs.
Telephone (0253) 21555

```
770 COLOR 1:PLOT S,95-H:DRAWTO 159-(S+Q)
,95-(H+G):PLOT S+Q,95-(H+G):DRAWTO 159-S
,95-H:RETURN
800 DATA 1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1
810 DATA 1,2,2,2,2,3,2,1,2,1,2,2,2,2,2,1
820 DATA 1,2,1,2,1,1,2,1,3,1,2,1,2,1,2,1
830 DATA 1,2,1,2,3,2,2,2,2,2,2,3,2,1,3,1
840 DATA 1,2,2,2,1,3,1,3,1,2,1,1,2,2,2,1
850 DATA 1,3,1,1,1,2,1,2,1,3,1,1,3,1,1,1
860 DATA 1,2,3,2,2,2,1,2,2,2,2,3,2,3,2,1
870 DATA 1,3,1,1,1,1,1,3,1,1,1,1,3,1,1,1
880 DATA 1,2,2,2,2,3,2,2,2,2,3,2,2,2,2,1
890 DATA 1,3,1,1,3,1,3,1,3,1,1,1,3,1,1,1
900 DATA 1,2,3,2,2,1,2,2,2,1,2,2,1,2,1,1
910 DATA 1,1,1,3,1,1,1,1,2,1,2,1,1,2,1,1
920 DATA 1,2,3,2,3,2,2,2,2,3,2,2,3,2,2,1
930 DATA 1,3,1,2,1,2,1,2,1,1,2,1,1,1,2,1
940 DATA 1,7,1,2,2,2,3,2,2,3,2,2,2,3,10,
1
950 DATA 1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1
960 DATA 3,4,2,4,1,3,1,2,4,2,3,1
970 DATA 0,-1,1,0,-1,0,1,0,0,1,0,-1,0,1,
-1,0,1,0,-1,0,0,-1,0,1
1000 IF LA=0 THEN RETURN
1010 N=STICK(0):IF STRIG(0)=0 THEN 1040
1020 IF N<>15 THEN RETURN
1030 GOTO 1010
1040 X=INT(RND(0)*12+2):Y=INT(RND(0)*12+
2):R=INT(RND(0)*4+1)
1050 IF M(X,Y)=2 THEN 1060
1055 GOTO 1040
1060 GRAPHICS 6+16:SETCOLOR 0,0,0
1070 FOR A=30 TO 0 STEP -2:SOUND 0,A,8,1
5:SETCOLOR 4,A,14:FOR T=1 TO 4:NEXT T:SE
TCOLOR 4,0,0:NEXT A:SOUND 0,0,0,0
1080 GOTO 270
1100 POKE 764,255:IF CH=1 THEN RETURN
1105 GRAPHICS 0:SETCOLOR 2,7,0:SETCOLOR
4,7,0:SETCOLOR 1,7,0:POKE 752,1:C=0
1110 FOR A=0 TO 15:MA=M(A,C):TI=TI+1
1120 A$=M$(MA,MA):POSITION A+11,C+4:PRIN
T A$:NEXT A:A$=R$(R,R)
1130 C=C+1:IF C<16 THEN 1110
1140 SETCOLOR 1,7,8:FOR A=1 TO 40:POSITI
ON X1+11,Y1+4:PRINT A$:FOR T=1 TO 20:NEX
T T:POSITION X1+11,Y1+4:PRINT " "
1150 FOR T=1 TO 20:TI=TI+1:NEXT T
1160 NEXT A:GRAPHICS 6+16:SETCOLOR 0,7,0
:SETCOLOR 4,7,0:GOTO 260
1170 T=STRIG(0)
1175 IF T=0 THEN 1200
1180 N=STICK(0)
1185 IF CH=1 THEN 1190
1187 IF PEEK(764)=37 THEN 1100
1190 IF N<>15 THEN RETURN
1195 GOTO 1170
1200 Q=29:G=17:S=0:H=0
1210 LA=0:M(X1+U,Y1+V)=2:GOSUB 690:RETUR
N
1220 IF LD=1 THEN RETURN
1230 FOR T=95 TO 35 STEP -1:SOUND 0,T,10
,15:COLOR 0:PLOT 0,T:DRAWTO 159,T
1240 COLOR 1:PLOT 0,T-1:DRAWTO 159,T-1:N
EXT T:SOUND 0,0,0,0
1250 GOTO 2000
1260 IF LA=1 THEN RETURN
1270 IF STRIG(0)=0 THEN 1310
1280 N=STICK(0)
1290 IF N<>15 THEN RETURN
1300 GOTO 1270
1310 FOR A=94 TO 82 STEP -4:COLOR 1:PLOT
 75,A:DRAWTO 75,A-4:DRAWTO 85,A-4:DRAWTO
 85,A:SOUND 0,A*2,10,15:NEXT A
1320 SOUND 0,0,0,0:LD=1:RETURN
```

```
1330 IF M(X1+U,Y1+V)<>2 OR LA=1 THEN RET
URN
1340 IF STRIG(0)=0 THEN 1380
1345 IF CH=1 THEN 1350
1347 IF PEEK(764)=37 THEN 1100
1350 N=STICK(0)
1360 IF N<>15 THEN RETURN
1370 GOTO 1340
1380 LA=1:M(X1+U,Y1+V)=5:Q=29:G=17:S=0:H
=0:GOSUB 690:GOTO 1170
1390 IF STRIG(0)=0 THEN FOR T=1 TO 20:NE
XT T:GOTO 1430
1400 N=STICK(0)
1410 IF N<>15 THEN RETURN
1420 GOTO 1390
1430 M(X1+U,Y1+V)=2:CH=0:G=17:H=0:GOSUB
730:RETURN
1435 FOR B=1 TO LEV:TI=TI+1:FX=0:FY=0:IF
 X1=X2(B) AND Y1=Y2(B) THEN 2060
1440 RA=INT(RND(0)*10+1):IF RA<5 THEN RE
TURN
1450 X3=X1-X2(B):Y3=Y1-Y2(B):MX=SGN(X3):
MY=SGN(Y3)
1460 DM=M(X2(B)+MX,Y2(B)):IF DM=2 THEN 1
500
1470 IF DM>2 THEN DM=M(X2(B)+(MX*2),Y2(B
))
1480 IF DM=2 THEN MX=MX*2:GOTO 1500
1490 FX=1:MX=0
1500 DM=M(X2(B),Y2(B)+MY):IF DM=2 THEN 1
540
1510 IF DM>2 THEN DM=M(X2(B),Y2(B)+(MY*2
))
1520 IF DM=2 THEN MY=MY*2:GOTO 1540
1530 FY=1:MY=0
1540 IF FX+FY=2 THEN 1570
1550 IF FX+FY=0 THEN 1580
1560 M(X2(B)+MX,Y2(B)+MY)=9:M(X2(B),Y2(B
))=2:X2(B)=X2(B)+MX:Y2(B)=Y2(B)+MY
1570 NEXT B:RETURN
1580 RA=INT(RND(0)*2+1):IF RA=1 THEN MX=
0:GOTO 1560
1590 MY=0:GOTO 1560
1600 IF D1=4 THEN GOSUB 1220
1605 LD=0
1610 IF D1=7 THEN GOSUB 1000
1620 IF D2=4 THEN GOSUB 1260
1630 IF D2=5 THEN GOSUB 1170
1640 IF D2=8 THEN GOSUB 1390
1650 GOSUB 1330
1660 GOSUB 1435
1670 IF D1=10 THEN 1690
1680 RETURN
1690 FOR T=80 TO 0 STEP -1:SETCOLOR 4,T,
14:SOUND 0,T,10,10:NEXT T
1700 GRAPHICS 0:POKE 752,1:SETCOLOR 2,12
,4:SETCOLOR 4,12,4:POSITION 9,12:PRINT "
WELL DONE YOU'RE OUT!"
1710 FOR T=1 TO 100:NEXT T:GOTO 2000
2000 GRAPHICS 0:POKE 752,1:SETCOLOR 1,0,
0:SETCOLOR 2,11,8:SETCOLOR 4,11,8:IF MO<
>1 THEN 2020
2010 POSITION 5,4:? "YOU ARE NOW A MONST
ERS DINNER !"
2020 POSITION 7,10:? "YOU WERE IN THE MA
ZE FOR..."
2030 POSITION 16,15:? ;INT(TI/8.6);" SEC
'S"
2040 POSITION 7,20:? "PRESS BUTTON FOR A
NOTHER GO":IF STRIG(0)=0 THEN RUN
2050 GOTO 2040
2060 FOR T=1 TO 100:SOUND 0,T,2,15:POKE
559,43:SETCOLOR 4,T,14:NEXT T:SOUND 0,0,
0,0:MO=1:GOTO 2000
```



BY PHILIP HINTON

RUNS ON A TEXAS TI 99/4a IN 5K

Watch out — there's a snake in the grass! And this one is after all those juicy windfalls from the fruit trees in your orchard.

Take charge of this slippery customer as he wends his way

MUNCHER

around the rocks and trees, picking up tasty fruits on the way. There are four kinds to munch — apples, oranges, bananas and cherries. When one orchard is cleared of fruits your snake moves onto another more difficult screen. The rocks and trees in each orchard must be avoided. If the snake hits one he loses one of his ten lives. Around the edge of the orchard is a hedge which must be avoided. If the snake hits it the game is over. How many forbidden fruits can you collect?

```
10 GOSUB 2170
20 TREES=20
30 NROCKS=10
40 NFRUI=10
50 CALL SCREEN(4)
60 Q=32
70 SC=0
80 LIV=10
90 SHEET=1
100 RANDOMIZE
110 J=0
120 F=1
125 REM  CHOOSE A FRUIT
130 FR=INT(((4)*RND)+1)*8+121
135 REM  DEFINE GRAPHICS
140 CALL CHAR(104,"FF7F3F1F1F337
3FF")
150 CALL CHAR(105,"FFFFF9F9FFE7C
381")
160 CALL CHAR(106,"81C3E7FF9F9FF
FFF")
```

Illustration: Dorian Cross



```
170 CALL CHAR(107,"FFCECCF8F8FCF
EFF")
180 CALL CHAR(108,"18183C7EFFFF7
E7E")
190 CALL CHAR(145,"080406030306O
408")
200 CALL CHAR(153,"3C7EFFFFFFFFF
F7E")
210 CALL CHAR(137,"10182442E6F7F
762")
220 CALL CHAR(129,"30087EFFFFFFF
F7E")
230 CALL CHAR(112,"AA55AA55AA55A
A55")
240 CALL CHAR(96,"307CFEFFFFE7C78
3")
250 CALL CHAR(97,"55AA55AA55AA55
AA")
260 CALL CHAR(120,"78FCFEFEFEFE7C3
8")
270 CALL HCHAR(1,1,32,768)
280 A=12
290 B=4
300 D=1
310 P=0
```

```
320 FRUI=1
330 CHAR=105
340 CALL COLOR(10,14,1)
350 CALL COLOR(11,14,16)
360 CALL COLOR(13,7,1)
370 CALL COLOR(14,9,1)
380 CALL COLOR(15,12,1)
390 CALL COLOR(16,10,1)
400 CALL COLOR(9,13,1)
410 CALL COLOR(12,2,1)
420 CALL COLOR(2,3,3)
430 CALL HCHAR(3,3,97,28)
440 CALL VCHAR(3,3,97,20)
450 CALL HCHAR(22,3,97,28)
460 CALL VCHAR(3,30,97,20)
470 A$="SCORE:"&STR$(SC)
480 Z=2
490 RT=3
500 GOSUB 2020
510 CALL HCHAR(2,16,108,LIV)
520 A$="GARDEN:"&STR$(SHEET)
530 Z=23
540 RT=3
550 GOSUB 2020
```





JABBERWOCKY give you the chance to become a secret agent! Can you reach London with the secret plans before the KGB reach you?
This adventure game with Arcade Action features single key commands for fast, real-time excitement! Written entirely in machine code for the 48K Spectrum!

WILL YOUR AIRLINER REACH ITS DESTINATION?

CAN YOU OUT-SHOOT THE ENEMY?

WILL YOU EVEN FIND THE GUN?

WHO IS MRS. BORGIA?

Available for the 48K Spectrum £9.95 inc. P&P.

JABBERWOCKY SOFTWARE
610 WASHWOOD HEATH ROAD, BIRMINGHAM B8 2HG.

Access or Barclaycard Order Ring
021 326 6394

I enclose cheque/P.O. payable to **Jabberwocky** total £ ....
or debit my Access/Barclaycard

Signature ....
Name ....
Address ....

Send to **Jabberwocky Software, 610 Washwood Heath Road, Birmingham B8 2HG.**

JABBERWOCKY

```
560 CALL HCHAR(23,14,FR,NFRUI)
565 REM  PLACE TREES,ROCKS AND F
RUITS ON THE SCREEN
570 FOR YT=1 TO TREES
580 AD=INT((18)*RND)+4
590 BD=INT((24)*RND)+6
600 CALL HCHAR(AD,BD,96)
610 NEXT YT
620 FOR ROC=1 TO NROCKS
630 ROCK=INT((18)*RND)+4
640 ROCK2=INT((24)*RND)+6
650 CALL GCHAR(ROCK,ROCK2,RO)
660 IF RO<>32 THEN 630
670 CALL HCHAR(ROCK,ROCK2,120)
680 NEXT ROC
690 FOR K=1 TO NFRUI
700 E=INT((18)*RND)+4
710 R=INT((24)*RND)+6
720 CALL GCHAR(E,R,RFL)
730 IF RFL<>32 THEN 700
740 CALL HCHAR(E,R,FR)
750 NEXT K
755 REM  MAIN LOOP
760 CALL HCHAR(A,B,CHAR)
770 CALL HCHAR(A-F,B-J,112)
780 IF Q<>32 THEN 1230
790 CALL KEY(0,X,Y)
800 IF Y=0 THEN 1170
810 IF X=83 THEN 850
820 IF X=68 THEN 930
830 IF X=69 THEN 1010
840 IF X=88 THEN 1090 ELSE 760
850 B=B-1
860 F=0
870 J=-1
880 P=-1
890 O=0
900 CHAR=104
910 CALL GCHAR(A,B,Q)
920 GOTO 760
930 B=B+1
940 F=0
950 J=1
960 P=1
970 O=0
980 CHAR=107
990 CALL GCHAR(A,B,Q)
1000 GOTO 760
1010 A=A-1
1020 F=-1
1030 J=0
1040 P=0
1050 O=-1
1060 CHAR=106
1070 CALL GCHAR(A,B,Q)
1080 GOTO 760
1090 A=A+1
1100 F=1
1110 J=0
1120 P=0
1130 O=1
1140 CHAR=105
1150 CALL GCHAR(A,B,Q)
1160 GOTO 760
1170 B=B+P
1180 A=A+O
1190 CALL GCHAR(A,B,Q)
1200 IF Q<>32 THEN 1210 ELSE 760
1210 CALL HCHAR(A,B,CHAR)
1220 CALL HCHAR(A-F,B-J,112)
1230 IF (Q=96)+(Q=112)+(Q=120)TH
EN 1260
1240 IF (Q=129)+(Q=137)+(Q=145)+
(Q=153)THEN 1360
1250 IF Q=97 THEN 2060
1255 REM  CRASH ROUTINE
1260 FOR SOU=500 TO 480 STEP -1
1270 CALL SOUND(-100,SOU,VP)
1280 NEXT SOU
1290 CALL SOUND(1000,110,30,110,
30,500,30,-8,0)
1300 FOR NU=1 TO 10
1310 CALL COLOR(10,16,1)
1320 CALL COLOR(10,14,1)
1330 NEXT NU
1340 LIV=LIV-1
1350 GOTO 1760
1355 REM  ATE FRUIT
1360 CALL SOUND(500,500,0,800,5,
330,10)
1370 SC=SC+100
1380 FRUI=FRUI+1
1390 Q=32
1400 CALL HCHAR(23,14,32,NFRUI-F
RUI+2)
1410 CALL HCHAR(23,14,FR,NFRUI-F
RUI+1)
1420 A$=STR$(SC)
1430 Z=2
1440 RT=9
1450 GOSUB 2020
1460 IF FRUI=NFRUI+1 THEN 1470 E
LSE 760
1465 REM  GARDEN CLEARED OF  FRU
ITS
1470 CALL SOUND(100,110,0,220,0,
330,0)
1480 CALL SOUND(100,440,0,550,0,
660,0)
1490 CALL SOUND(100,800,0,880,0,
950,0)
1500 CALL SOUND(400,1000,0,1100,
0,1200,0)
1510 A$="CONGRATULATIONS"
1520 Z=10
1530 RT=7
1540 GOSUB 2020
```

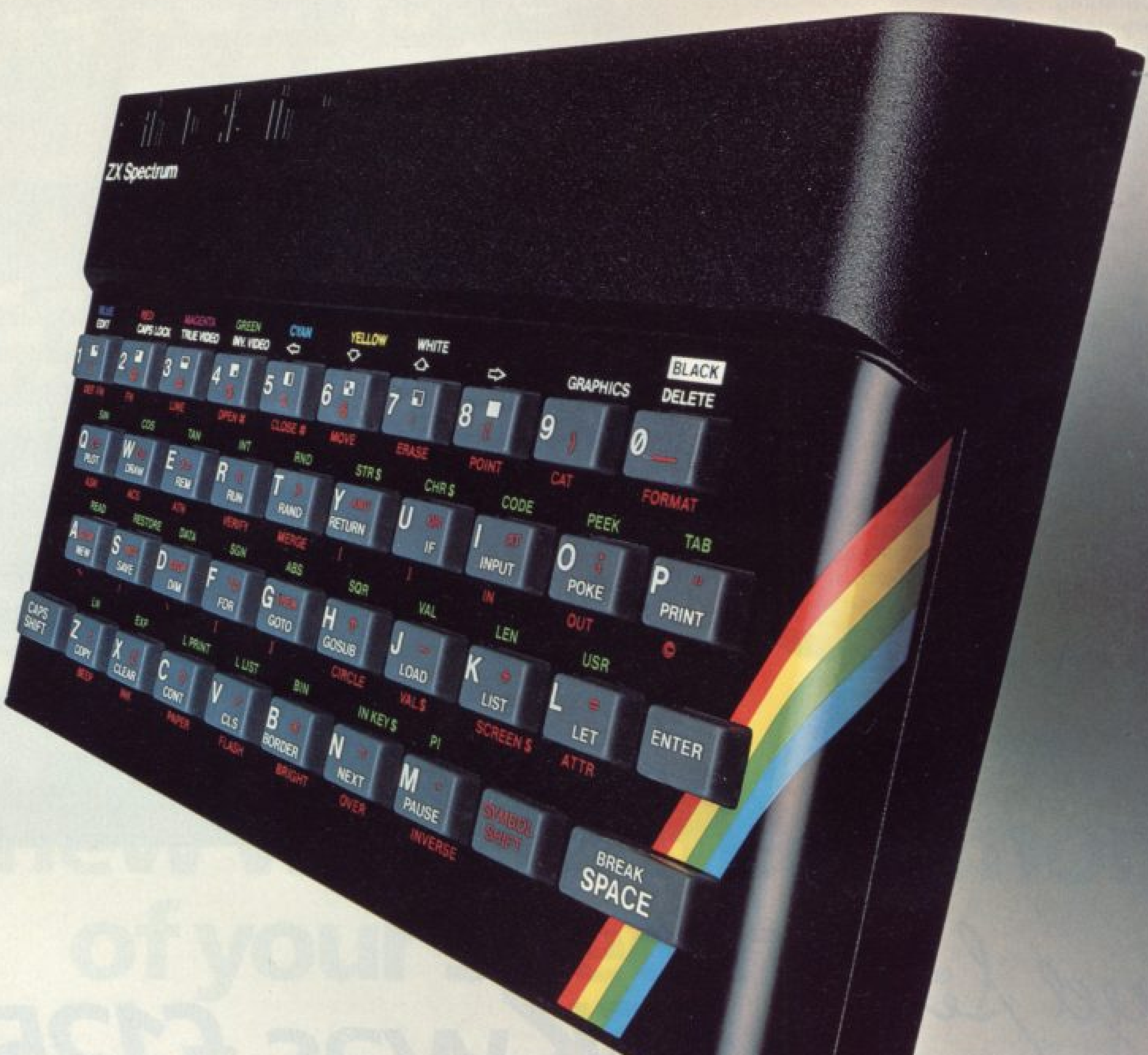
```
1550 A$="GARDEN "&STR$(SHEET)&"
COMPLETED"
1560 Z=11
1570 RT=6
1580 GOSUB 2020
1590 A$="BONUS "&STR$(SHEET*LIV*
100)
1600 Z=12
1610 RT=10
1620 GOSUB 2020
1630 SC=SC+(SHEET*LIV*100)
1640 A$=STR$(SC)
1650 Z=2
1660 RT=9
1670 GOSUB 2020
1680 SHEET=SHEET+1
1690 IF NFRUI=16 THEN 1710
1700 NFRUI=9+SHEET
1710 TREES=TREES+1
1720 NROCKS=NROCKS+1
1730 FOR WAIT=1 TO 300
1740 NEXT WAIT
1750 GOTO 100
1755 REM  LOST LIFE
1760 CALL HCHAR(2,16,32,LIV+2)
1770 IF LIV<1 THEN 1860
1780 CALL HCHAR(2,16,108,LIV)
1790 O=0
1800 P=0
1810 Q=32
1820 CALL HCHAR(A,B,CHAR)
1830 CALL HCHAR(A-F,B-J,112)
1840 CALL KEY(0,XU,YU)
1850 IF YU=0 THEN 1840 ELSE 760
1855 REM  GAME OVER
1860 FOR SOUN=150 TO 110 STEP -1
1870 CALL SOUND(100,SOUN,0)
1880 NEXT SOUN
1890 A$="GAME OVER"
1900 Z=10
1910 RT=10
1920 GOSUB 2020
1930 A$="SCORE:"&STR$(SC)
1940 Z=11
1950 RT=11
1960 GOSUB 2020
1970 PRINT "ANOTHER GAME?"
1980 CALL KEY(0,K,S)
1990 IF K=89 THEN 20
2000 IF K=78 THEN 2010 ELSE 1980
2010 END
2020 FOR KL=1 TO LEN(A$)
2030 CALL HCHAR(Z,RT+KL,ASC(SEG$
(A$,KL,1)))
2040 NEXT KL
2050 RETURN
2055 REM  RAN INTO HEDGE
2060 FOR VOLU=30 TO 0 STEP -1
2070 CALL SOUND(-250,-2,VOLU)
2080 NEXT VOLU
2090 FOR VOLU=0 TO 30
2100 CALL SOUND(-500,-2,VOLU)
2110 NEXT VOLU
2120 A$="YOU WENT OUT OF THE GAR
DEN"
2130 Z=9
2140 RT=3
2150 GOSUB 2020
2160 GOTO 1890
2165 REM  INSTRUCTIONS
2170 CALL CLEAR
2180 CALL SCREEN(16)
2190 PRINT "          M U N C H E R
"

2200 PRINT :"  THE OBJECT OF THE
 GAME IS":"TO COTROL A SNAKE WHI
CH IS":"MOVING AROUND A GARDEN."
2210 PRINT "THE SNAKE IS GROWING
 ALL THE":"TIME."
2220 PRINT "  YOU MUST MAKE THE
SNAKE":"RUN INTO THE FRUITS WHIC
H":"HAVE FALLEN ONTO THE GROUND.
"

2230 PRINT "BUT BEWARE,THERE ARE
 TREES":"IN THE GARDEN AND ROCKS
":"LYING ABOUT."
2240 PRINT "IF YOUR SNAKE RUNS I
NTO":"EITHER OF THESE.ANOTHER"
2250 PRINT "TAKES ITS PLACE UNTI
L ALL":"TEN SNAKES HAVE BEEN USE
D."
2260 PRINT "  IF YOU EAT ALL THE
 FRUITS":"IN A GARDEN YOU ARE MO
VED":"TO ANOTHER ONE."
2270 GOSUB 2350
2280 CALL CLEAR
2290 PRINT "AT THE END OF EACH G
ARDEN":"YOU ARE GIVEN A BONUS WH
ICH":"IS ADDED TO YOUR SCORE."
2300 PRINT "YOUR SCORE,SNAKES RE
MAINING":"GARDEN AND FRUITS":"RE
MAINING ARE SHOWN ON THE":"SCREE
N."
2310 PRINT "WATCH OUT FOR YOUR T
RAIL AS":"A SNAKE IS LOST IF IT"
:"COLLIDES INTO THE ITS TRAIL."
2320 PRINT "ALSO BEWARE OF THE S
IDE OF":"THE GARDEN.IF YOU RUN I
NTO":"IT YOU HAVE LEFT THE GARDE
N"
2330 PRINT "AND YOUR GAME IS OVE
R."
2340 PRINT "ENSURE THE ALPHA LOC
K KEY":"IS IN THE 'ON' POSITION.
"
2345 PRINT "USE THE CURSOR KEYS(
E,D,X,S)":"TO CONTROL YOUR SNAKE
."
2350 PRINT :"PRESS ANY KEY TO CO
NTINUE"
2360 CALL KEY(0,K,S)
2370 IF S=0 THEN 2360 ELSE 2380
2380 RETURN
```

sinclair special

1



Inside...
Latest prices round-up...
Latest software...
Order form...

Introduction

One thing's certain about the Sinclair world – there's never a dull moment.

Every month sees new software and new hardware, produced by Sinclair enthusiasts, or produced by Sinclair itself.

The magazines do a fantastic job of keeping you up to date with the input of enthusiasts. We want to keep you in touch with Sinclair's own developments.

Every month, there'll be a Sinclair Special in this magazine.

Sometimes, inevitably, there won't be anything new to say – we want to break away from the breathless announcements of hardware and software you just can't buy.

But when something new *is* available, we want you to have accurate information – fast. You'll find it here.

This month, we're giving you the latest information on the recommended retail prices of Sinclair equipment. They're *our* prices, and you may well find things cheaper (or dearer) in the shops. If they're cheaper – terrific! Snap them up. Note, however, that from us the ZX81 is down to £39.95.

We're also announcing six superb new Sinclair cassettes for the Spectrum, and three more which make full use of the ZX81. There's an order form at the back of this Special.

Next month... but there, next month is another story! Watch (as they say) this space.

Nigel Searle

Nigel Searle.
Managing Director,
Sinclair Research Ltd.



Spectrum – latest recommended retail prices.

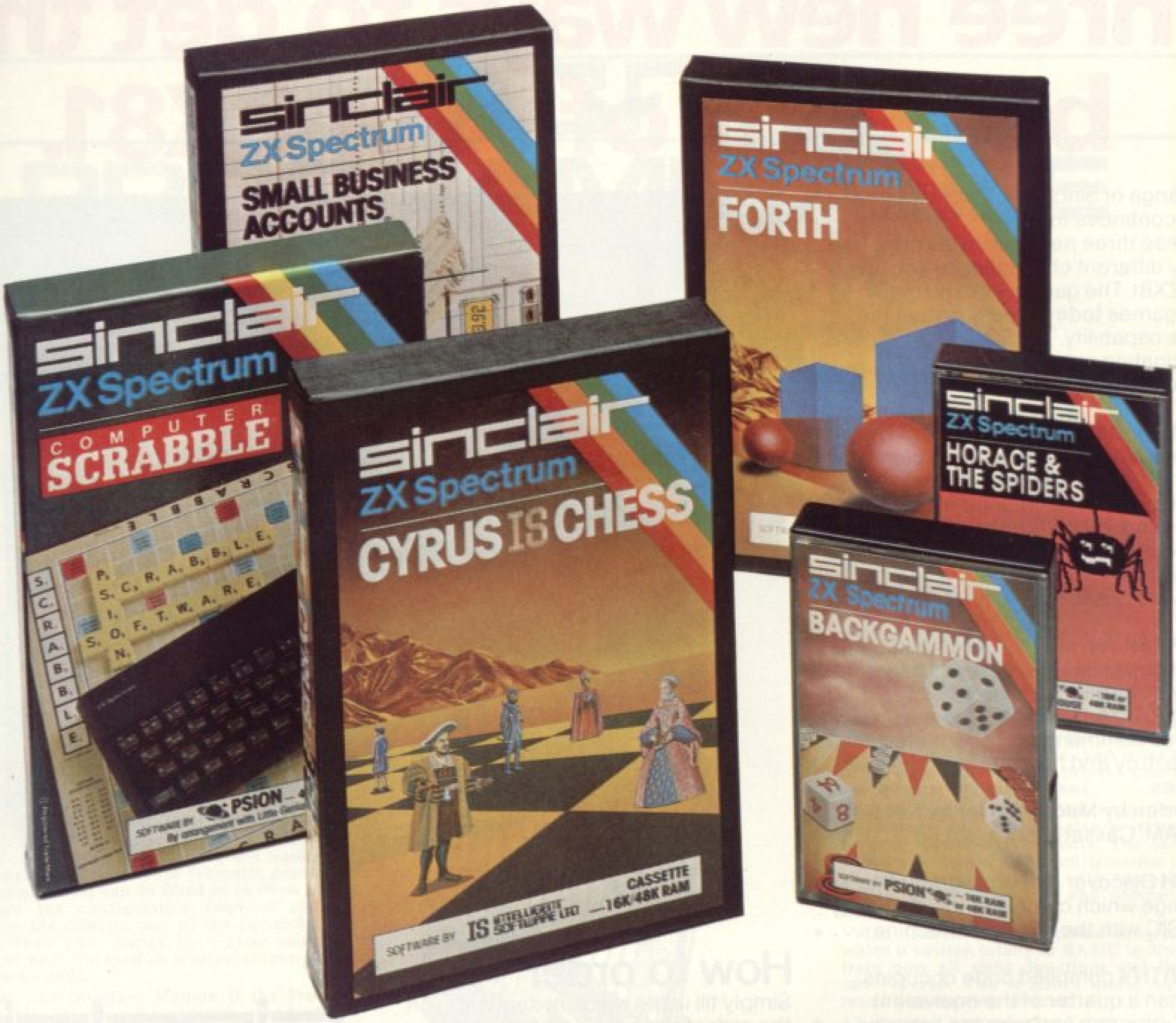


16K was £125.00
16K now £99.95

48K was £175.00
48K now £129.95

ZX Printer was £59.95 — *ZX Printer now £39.95*

ZX81 was £49.95 — *ZX81 now £39.95*



Six new ways to make more of your Spectrum.

Take a look at these brand-new titles. Each is an outstanding new program using the full potential of the Spectrum, for games with stunningly animated graphics, for strategies of fiendish cunning, for masterly applications of computing capability...

Cyrus-IS-Chess Based on the Cyrus Program, which won the 2nd European Microcomputer Chess Championship *and* trounced the previously unbeaten Cray Blitz machine. With 8 playing levels, cursor piece-movement, replay and 'take-back' facilities, plus two-player option. The 48K version has many additional features including an extensive library of chess openings. For 16K or 48K RAM Spectrum.

Horace and the Spiders Make your way with Horace to the House of Spiders, armed only with a limited supply of anti-spider-bite serum. In the house, destroy the webs before the spiders can repair them. Then destroy the spiders, before *they* destroy Horace! Undoubtedly the creepiest Horace program ever produced! For 16K or 48K RAM Spectrum.

Computer Scrabble The famous board game, on-screen – with the whole board on view! A huge vocabulary of over 11,000 words. Full-size letter tiles, four skill levels – the highest of which is virtually unbeatable. For 1 to 4 players. For 48K RAM Spectrum.
(SCRABBLE trademark and copyright licensed by Scrabble Schutzrechte und Handels GmbH – a J.W. Spear and Sons PLC subsidiary.)

Backgammon A fast, exciting program, with traditional board display, rolling dice and doubling cube. Four skill levels. For experts – or beginners. (Rules are included – it's the quickest way to learn the game.) For 16K or 48K RAM Spectrum.

FORTH Learn a new programming language, as simple as BASIC, but with the speed of machine code. Complete with Editor and User manual. For 48K RAM Spectrum.

Small Business Accounts Speeds and simplifies accounting work, produces Balance Sheets, Profit and Loss information *and* VAT returns. Complete with User manual. For 48K RAM Spectrum.

Overleaf–your Sinclair order form.

AGF PROGRAMMABLE JOYSTICK INTERFACE

ONLY 32·95 +£1·00pp

for

sinclair ZX Spectrum 81

ABOUT OUR PROGRAMMABLE INTERFACE

Surpassing the outstanding specification of our Interface Module II which still offers the best software support at its price, a Joystick Interface that is compatible with ALL SOFTWARE through its unique hardware programmable design.

The Interface plugs on to the rear connector of your ZX81 or ZX Spectrum.

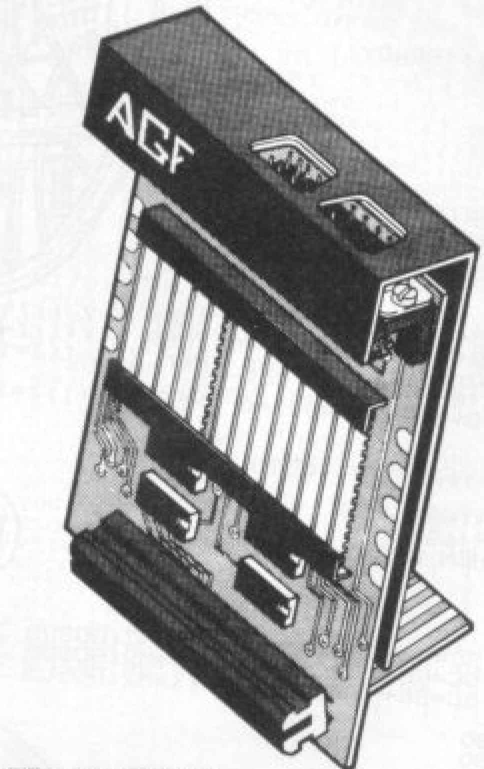
Quick clip-on connections, which are configured from a reference card supplied, allow you to define which of the forty keys are simulated by which action of the Joystick. A pack of ten Quick Reference Programming Cards makes setting for your favourite games even easier. These can be filled in to show at a glance the configuration required and stored in the cassette case of the particular game. When you change to a game using different keys the module is re-programmed in a few seconds.

As with our Interface Module II the Programmable Interface accepts all standard switch Joysticks that are Atari-compatible. Two sockets are available which are connected together for two player games which use the same keys for both players.

The Interface resides in the keyboard address space and does not affect its operation or interfere with any other add-ons. A rear extension edge connector will accommodate expansion of your system.

The unique AGF key simulation principle makes it extremely easy to incorporate Joystick action in your own programs. All eight directions and fire are read by simple BASIC.

With every order comes a free demonstration program called 'Video Graffiti' plus a full set of instructions.



KEY FEATURES

- ★ Programmable design gives TOTAL software support.
- ★ Accepts Atari, Competition Pro, Wico, Starfighter, Quick Shot, Le Stick etc.
- ★ Rear extension connector for all other add-ons.
- ★ Free demo program and instructions.

PACKAGE CONTENTS SUPPLIED

- Programmable Interface Module as illustrated, complete with clip-on programming leads.
- Self adhesive programming chart detailing how to define which key is simulated by UP, DOWN, LEFT, RIGHT, and FIRE. This can be fixed on to the case of your computer or if preferred the protective backing can be left on. The chart is made of a very durable reverse printed plastic and is extremely easy to read.
- One pack of ten Quick Reference Programming Cards for at-a-glance setting to your games requirements. The card allows you to mark the configuration in an easy to read fashion with space to record the software title and company name.
- Video Graffiti demonstration program which is written totally in BASIC to illustrate how all eight directions and fire can be read. This is also a useful high resolution drawing program.
- 12 months guarantee and full written instructions.

JOYSTICKS

ATARI CONTROLLERS

FOR USE WITH OUR INTERFACE Module or VIC 20, Commodore 64, Atari VCS, Atari 400, Atari 800

If you require extra Joysticks for our original interface module mark order 'OLD' Joysticks

ONLY £7.54 inc VAT + P&P

FROM: MR/MRS/MISS

ADDRESS

SEND C.W.O. (NO STAMP NEEDED) TO: A.G.F. HARDWARE, DEPT.E

FREEPOST, BOGNOR REGIS, WEST SUSSEX, PO22 9BR

QTY	ITEM	ITEM PRICE	TOTAL
	PROGRAMMABLE INTERFACE	33.95	
	JOYSTICK(S)	7.54	
	PACK(S) QUICK REFERENCE CARDS	1.00	
ONE	VIDEO GRAFFITI	FREE	
	ZX81 ☐ ZX SPECTRUM ☐ Please tick	FINAL TOTAL	

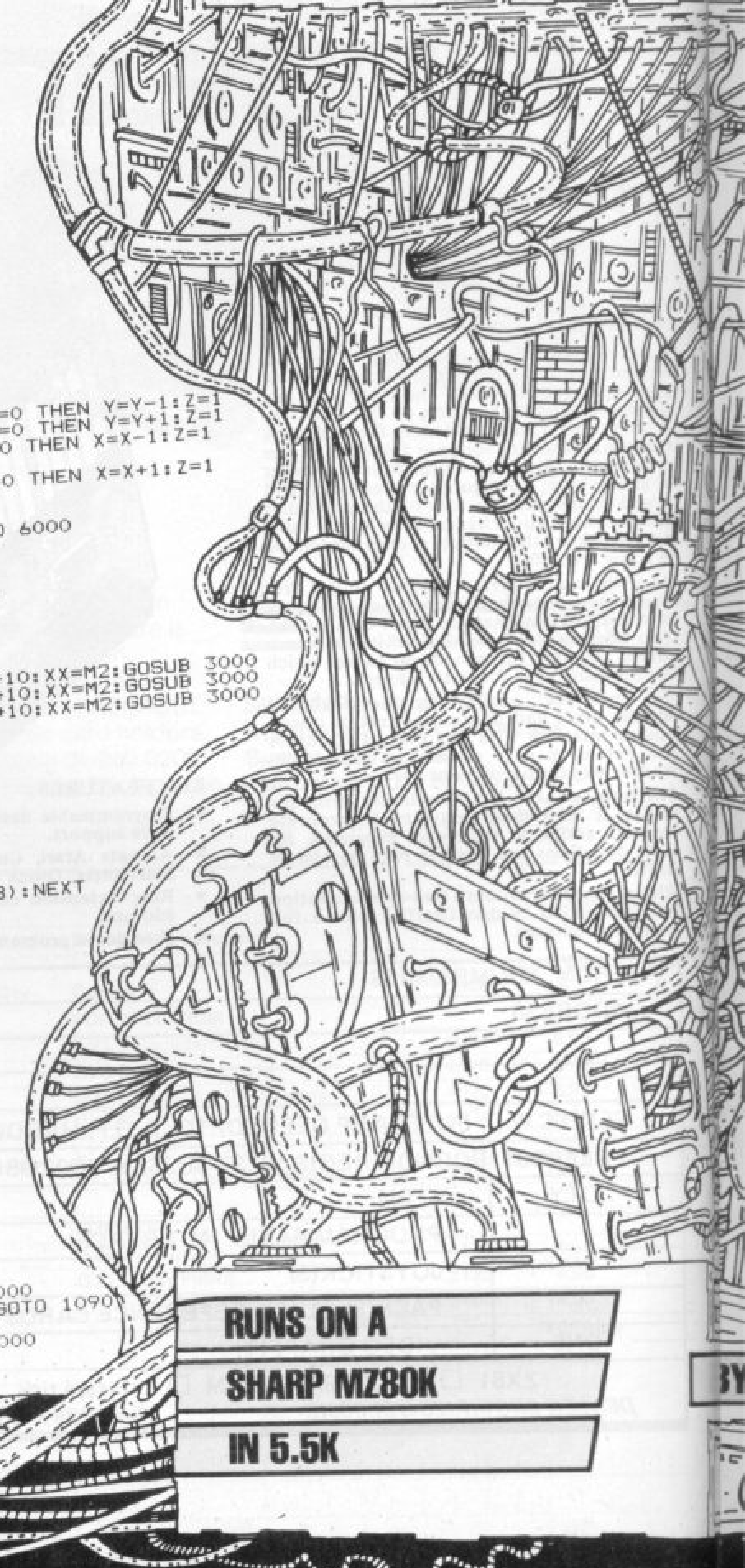
DEALER ENQUIRIES WELCOME *EXPORT PRICES ON APPLICATION*

REPAIRMAN'

Fred the repairman has been given a tough task. Miniaturised so he can fit inside a computer chip, poor old Fred has been told to pick up energy bytes from the chip's energy wall and transfer them to the numbered output ports.

What a rotten job! And life is made more difficult by a mutant Sparx which roams the chip and just hates repairmen. The Sparx has only one aim in life and that's to frazzle poor

```
1 X$=" **REPAIRMAN'S REVENGE**"
2 GOTO 9500
3 GOTO 300
10 PRINT"▣  SCORE";SC
15 PRINT"▒▒▒▒▒▒▒▒▒▒▒▒▒▒▒▒▒▒▒▒▒▒▒▒▒▒▒▒▒▒▒▒▒▒▒▒▒▒"
16 PRINT"  HI-SCORE ";X$;"  ";HS
20 PRINT"▒▒▒8▒▒▒6▒▒▒4▒▒▒2▒▒▒▒▒▒▒▒▒▒▒▒▒▒▒▒▒▒▒▒▒▒▒▒▒"
30 PRINT"▒                                   ▒▒▒"
40 PRINT"▒                                   ▒▒▒"
50 FOR X=1 TO 14
60 PRINT"▒                                   ▒▒▒":NEXT
76 PRINT"▒                                   ▒▒▒"
78 PRINT"▒                                   ▒▒▒"
80 PRINT"▒▒▒7▒▒▒5▒▒▒3▒▒▒1▒▒▒▒▒▒▒▒▒▒▒▒▒▒▒▒▒▒▒▒▒▒▒▒▒"
81 PRINT"▣"
82 PRINT"▣▣▣▣▣▣▣▣"
83 PRINTTAB(36);"▒E"
84 PRINTTAB(36);"▒N"
85 PRINTTAB(36);"▒E"
86 PRINTTAB(36);"▒R"
87 PRINTTAB(36);"▒G"
88 PRINTTAB(36);"▒Y"
95 RETURN
100 REM SET UP VARIABLES
101 PRINT"▣▣▣▣▣▣▣▣▣▣▣▣▣":PRINTTAB(16);"READY!"
110 M1=206:M2=207:DIM Z(3):Z(2)=107
120 X=24:Y=12:XX=M2
130 MX=1:MY=4
140 EN=163
150 POKE 10167,1
160 UP=55:DO=74:LF=89:RT=73:PI=102
170 PO=53248:PE=17828
171 FOR VF=1 TO 100:POKE 4514,VF:USR(68):NEXT VF
175 PRINT"▣▣▣▣▣▣▣▣▣▣▣▣▣":PRINTTAB(16);"      "
190 RETURN
300 GOSUB 10:GOSUB 100
1000 POKE(PO+X+(Y*40)),0
1020 GET A$:Z=0
1030 IF PEEK(PE)=UP THEN IF PEEK(PO+X+(Y*40)-40)=0 THEN Y=Y-1:Z=1
1040 IF PEEK(PE)=DO THEN IF PEEK(PO+X+(Y*40)+40)=0 THEN Y=Y+1:Z=1
1060 IF PEEK(PE)=LF THEN IF PEEK(PO+X-1+(Y*40))=0 THEN X=X-1:Z=1
1061 IF Z=1 THEN POKE 4514,255:USR(68)
1080 IF PEEK(PE)=RT THEN IF PEEK(PO+X+1+(Y*40))=0 THEN X=X+1:Z=1
1085 IF F=1 THEN GOTO 6000
1086 IF ZA=5 THEN GOTO 1100
1090 IF PEEK(PE)=102 THEN FX=X:FY=Y:ZA=ZA+1:GOTO 6000
1100 POKE(PO+X+(Y*40)),XX
1101 IF Z=1 THEN POKE 4514,255:USR(68)
1102 IF Z=1 THEN POKE 4514,255:USR(68)
1120 IF PEEK(PO+X+1+(Y*40))=208 THEN GOSUB 2000
1125 IF XX=M2 THEN GOTO 1180
1130 SS=PEEK(PO+X+(Y*40)+40)
1131 USR(71)
1140 TT=PEEK(PO+X+(Y*40)-40)
1150 IF SS>32 THEN IF SS<41 THEN SC=SC+(SS-32)*10:XX=M2:GOSUB 3000
1160 IF TT>32 THEN IF TT<41 THEN SC=SC+(TT-32)*10:XX=M2:GOSUB 3000
1170 IF BN>32 THEN IF BN<41 THEN SC=SC+(BN-32)*10:XX=M2:GOSUB 3000
1175 IF SC>500 GOSUB 4010
1176 IF SC>300 THEN CX=3:GOTO 1180
1177 IF SC>150 THEN CX=4:GOTO 1180
1178 IF SC=>0 THEN CX=5
1180 VV=INT(CX*RND(1))+1
1182 USR(71)
1185 IF VV<3 THEN GOSUB 4010
1190 POKE 4465,30:POKE 4466,0:PRINT"      "
1500 GOTO 1000
2000 IF XX=M1 THEN RETURN
2005 FOR ZZ=50 TO 0 STEP-1:POKE 4514,ZZ:USR(68):NEXT
2010 FOR ZZ=0 TO 50:POKE 4514,ZZ:USR(68):NEXT
2020 XX=M1
2030 RETURN
3000 FOR AZ=1 TO 20
3005 POKE 4514,AZ:USR(68)
3010 NEXT
3011 PRINT"▣": PRINTTAB(8);"▣";SC
3015 FOR AZ=50 TO 1-STEP -1
3020 POKE 4514,AZ:USR(68)
3025 NEXT
3030 FOR AZ=1 TO 30
3035 POKE 4514,AZ:USR(68)
3040 NEXT:RETURN
4010 POKE(PO+MX+(MY*40)),0
4015 IF MX<X THEN MX=MX+1
4020 IF MX>X THEN MX=MX-1
4030 IF MY<Y THEN MY=MY+1
4040 IF MY>Y THEN MY=MY-1
4045 POKE(PO+MX+(MY*40)),Z(2)
4050 IF MX=X THEN IF MY=Y THEN GOTO 8000
5000 RETURN
6000 POKE(PO+FX+(FY*40)),0:F=1
6002 POKE 4514,51:USR(68):PW=PW-10
6005 IF FX=MX THEN IF FY=MY THEN F=0:GOTO 7000
6010 IF PEEK(PO+FX-1+(FY*40))=164 THEN F=0:GOTO 1090
6020 FX=FX-1
6030 IF FX=MX THEN IF FY=MY THEN F=0:GOTO 7000
6040 POKE(PO+FX+(FY*40)),69
6050 GOTO 1100
```



RUNS ON A

SHARP MZ80K

IN 5.5K

BY

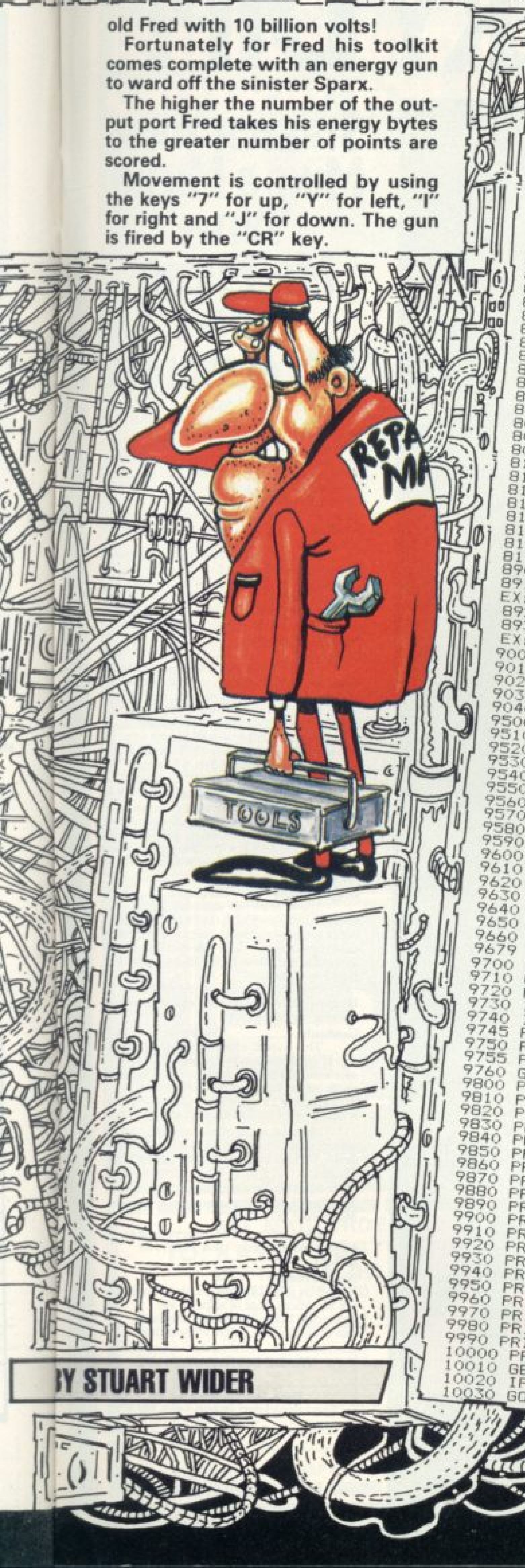
N'S REVENGE

old Fred with 10 billion volts!

Fortunately for Fred his toolkit comes complete with an energy gun to ward off the sinister Sparx.

The higher the number of the output port Fred takes his energy bytes to the greater number of points are scored.

Movement is controlled by using the keys "7" for up, "Y" for left, "I" for right and "J" for down. The gun is fired by the "CR" key.



BY STUART WIDER

```
6945 USR(71)
7000 POKE(PO+X+(Y*40)),XX
7001 FOR BB=1 TO 10
7002 POKE 4514,BB:USR(68)
7005 POKE(PO+MX+(MY*40)),109
7010 FOR CC=1 TO 10:NEXT CC
7020 POKE(PO+MX+(MY*40)),107
7030 NEXT BB
7040 POKE(PO+MX+(MY*40)),0
7050 MX= 1:MY=4
7060 GOTO 1100
8000 FOR BC=30 TO 1 STEP-1
8001 POKE 59555,1
8010 POKE(PO+X+(Y*40)),207
8020 POKE 4514,BC:USR(68)
8030 FOR BD=1 TO 10:NEXT BD
8040 POKE 4514,BC+10:USR(68)
8050 POKE(PO+X+(Y*40)),206
8055 FOR BE=1 TO 10:NEXT BE
8056 POKE 59555,0:FOR VP=1 TO 20:NEXT VP
8060 NEXT BC
8061 FOR VB=1 TO 100:POKE 4514,VB:USR(68):NEXT VB
8070 USR(71):POKE 59555,1
8080 POKE(PO+X+(Y*40)),0
8081 FOR RR=1 TO 300:NEXT RR
8090 MX=1:MY=4:X=24:Y=12:XX=M2:ZA=0:FX=X:FY=Y:F=0
8100 IF SC>HS THEN HS=SC:GOTO 8900
8110 PRINT"■YOUR SCORE WAS";SC
8120 PRINT"______________________________"
8130 SC=0
8140 PRINT:PRINT"ANOTHER GAME ?"
8150 GET A$:IF A$="Y" THEN 300
8160 IF A$="N" THEN PRINT"■":END
8170 GOTO 8150
8900 FOR EX=-255 TO 0 STEP 10
8910 BX=ABS(EX):POKE 4514,1:POKE 4513,BX:USR(68):NEXT
EX:USR(71)
8920 FOR EX=-255 TO 255 STEP 8
8930 BX=ABS(EX):POKE 4514,1:POKE 4513,BX:USR(68):NEXT
EX:USR(71)
9000 PRINT"■WELL DONE,PLEASE ENTER YOUR NAME"
9010 PRINT"(NOT MORE THAN 20 CHARACTERS)"
9020 INPUT X$:SC=0
9030 IF LEN(X$)>20 THEN 9010
9040 GOTO 8140
9500 PRINT"■"
9510 PRINT"
9520 PRINT"                                   "
9530 PRINT"                                   "
9540 PRINT"                                   "
9550 PRINT
9560 PRINT"                                   "
9570 PRINT"                                   "
9580 PRINT"                                   "
9590 PRINT"                                   "
9600 PRINT:PRINT:PRINT
9610 PRINT"                                   "
9620 PRINT"                                   "
9630 PRINT"                                   "
9640 PRINT"                                   "
9650 PRINT"                                   "
9660 PRINT"                                   "
9679 PRINT"                                   "
9700 PRINT" DO YOU NEED INSTRUCTIONS?(TYPE Y OR N)"
9710 GET  A$
9720 POKE 59555,1
9730 IF A$="Y" THEN GOTO 9800
9740 IF A$="N" THEN GOTO 3
9745 FOR CB=1 TO100:NEXT CB
9750 POKE 59555,0
9755 FOR CB=1 TO100:NEXT CB
9760 GOTO 9710
9800 PRINT"■"
9810 PRINT"**REPAIRMANS REVENGE**"
9820 PRINT"_______________________"
9830 PRINT"SEQUEL TO **short circuit**"
9840 PRINT"___________________________"
9850 PRINT"YOUR MISSION IS TO TRANSFER BITS OF    "
9860 PRINT"ENERGY FROM THE SERIAL INPUT"
9870 PRINT"(ENERGY WALL) TO THE OUTPUT OF THE CHIP"
9880 PRINT"THE HIGHER THE OUTPUT PORT TOUCHED      "
9890 PRINT"WHEN THE REPAIRMAN IS CHARGED WITH      "
9900 PRINT"ENERGY THEN THE HIGHER SCORE YOU CAN    "
9910 PRINT"GAIN.BUT BEWARE,A MUTANT SPARX IS ON    "
9920 PRINT"THE LOOSE,AVOID IT AT ALL COSTS."
9930 PRINT"IT CAN BE DESTROYED BY SHOOTING BOLTS   "
9940 PRINT"OF ENERGY AT IT.YOU POSESS ENOUGH       "
9950 PRINT"ENERGY TO KILL 5 SPARXS.THE ENERGY      "
9960 PRINT"BOLTS CAN ONLY FIRE IN ONE DIRECTION."
9970 PRINT"YOU HAVE ONLY ONE LIFE........"
9980 PRINT"THE CONTROLS ARE 7(↑),I(→),J(↓),Y(←)   "
9990 PRINT"CR TO FIRE......GOOD LUCK....."
10000 PRINT:PRINT"PRESS(S)TO START"
10010 GET A$
10020 IF A$="S" THEN GOTO 3
10030 GOTO 10010
```

Illustration: Dorian Cross

KAYDE

In the Swamp, no one can hear you scream.

Fight tooth and nail with Leopard Lord.



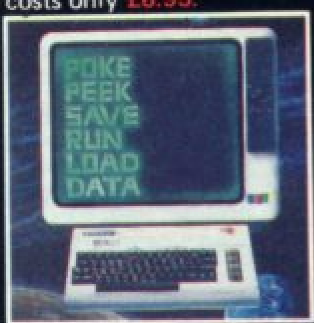


Death stalks the Swamp at every turn. Nowhere is safe and you're on your own. You survive on your wits alone with nobody to help you. Be thankful it's only the latest game from Kayde You'll gasp with relief when you come to the end of the struggle against some of the most dangerous monsters ever programmed. You can be sorcerer, wise man, mercenary, knight or a druid. But you've got to be good. No silly problems to hinder your progress. It's just you against the swamp. £9.95

The first of the new exciting adventure games, specially commissioned by Kayde and written by a science fiction writer. The first game is set in and around a castle littered with monsters, mazes and magical items. You must find the correct items before facing Fordel, the elete Leopard Lord, because you won't get a second chance. Leopard Lord or the Swamp for just £9.95

Leopard Lord is not available for **Vic 20**.

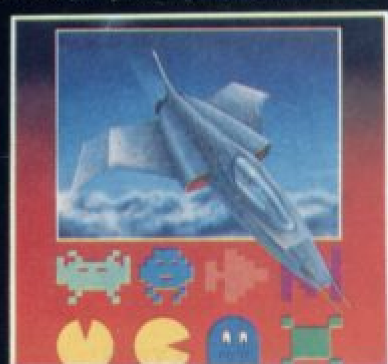
KAYDE KEYS – THE FUNCTION JUNCTION
Get the best from your VIC 20 with Kayde Keys - the program that saves time and effort on function keys and characters. The function keys will run, list, save and load your programs and enable you to write your own software. Just load and run. Kayde Keys works on just over 300 bytes and costs only £6.95.





TOUCHWOOD (16K ZX81) £5.95
A fast moving, exciting and highly graphical game based on Frogger the popular arcade game. Dodge cars and juggernauts then combat the log infested river to get safely to the other side.

DESIGN/RESTORE
Create your own characters the easy way. You get three character sets with this program and it enables you to load characters into the VIC 20 for use in your own games. Just the thing for the adventurous programmer for only £9.95



We offer the fastest delivery time of all times.

Mail Order + Showroom
Kayde Software Systems Ltd., The Conge
Great Yarmouth Norfolk NR30 1PJ
Tel: (0493) 55253/57867 Telex: 975525 KAYDE G.

New London Showroom
Kayde Home Computers Ltd
1 Station Approach
New Eltham London SE9 Tel: 01-859 7505

ALL ITEMS AVAILABLE AT GREENS STORES
24 HOUR TELEPHONE SERVICE:
Tel: (0493) 55253/57867
Dealers Welcome

ALL MAIL ORDERS
TO: KAYDE SOFTWARE LTD,
DEPT. CVG8, THE CONGE, GREAT YARMOUTH, NORFOLK NR30 1PJ

PLEASE PRINT AND STATE TYPE OF COMPUTER

Qty.	Item	Item Price £	Total £

Please allow £2.00 P&P for all Hardware 50p for all software.

DON'T FORGET YOU CAN ALWAYS ORDER ON THE TELEPHONE WITH YOUR CREDIT CARD. DEALERS WELCOME.

*I enclose a cheque/postal order payable to *KAYDE Software Ltd,* for £............ *Please charge to my Access/Barclaycard/Trustcard account no.

*Please delete/complete as applicable.

Signature ____________

Name: Mr/Mrs/Miss ____________

Address ____________

BY KEVIN LIDLEY

RUNS ON A ZX81

IN 16K

GLADIATOR



Illustration: Jon Davis

Gladiators takes you back to those bloodstained days of ancient Rome when everyone's idea of a good time was to go and watch two men hack bits off each other! These days we're much more civilised about these things. We only do it on video screens!

You can either fight it out against a computer controlled opponent or take on a friend in mortal combat.

To move Gladiator 'K' use keys Z and X. To move Gladiator 'L' use keys N and M.

The program works as listed but suffers from the speed limitations of ZX81 Basic. It can be speeded up slightly by moving the mass of LET statements to the end of the program.

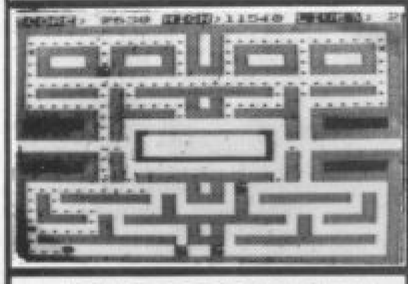
To do this, change line 2 to GOTO 7000 and add 7000 to all line numbers between 3 and 186. Then delete lines 3 to 186.

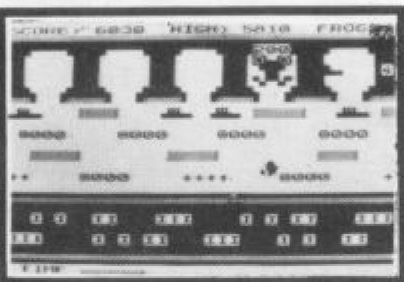
```
 1 REM SET ALL VALUES
 2 GOTO 8000
 3 LET Z=20
 4 LET Y=5
 5 LET V=9
 6 LET J=9
 9 REM DIM ALL ARRAYS
10 DIM A$(8,6)
12 LET A$(1)=""
14 LET A$(2)=""
16 LET A$(3)=""
18 LET A$(4)=""
20 LET A$(5)=""
22 LET A$(6)=""
24 LET A$(7)=""
26 LET A$(8)=""
```

```
30 DIM B$(8,6)
32 LET B$(1)="      "
34 LET B$(2)="      "
36 LET B$(3)="      "
38 LET B$(4)="      "
40 LET B$(5)="      "
42 LET B$(6)="      "
44 LET B$(7)="      "
46 LET B$(8)="      "
50 DIM C$(6,6)
56 LET C$(4)="      "
58 LET C$(5)="      "
60 LET C$(6)="      "
70 DIM D$(6,6)
72 LET D$(4)="      "
74 LET D$(5)="      "
76 LET D$(6)="      "
80 REM DEATH MOVES
90 DIM E$(8,6)
95 LET E$(4)="      "
97 LET E$(5)="      "
98 LET E$(6)="      "
100 LET E$(7)="      "
102 LET E$(8)="      "
120 DIM F$(8,6)
122 LET F$(4)="      "
124 LET F$(5)="      "
126 LET F$(6)="      "
128 LET F$(7)="      "
130 LET F$(8)="      "
140 REM HERO MOVES
150 DIM G$(8,6)
152 LET G$(1)="      "
154 LET G$(2)="      "
156 LET G$(3)="      "
158 LET G$(4)="      "
160 LET G$(5)="      "
162 LET G$(6)="      "
164 LET G$(7)="      "
166 LET G$(8)="      "
170 DIM H$(8,6)
172 LET H$(1)="      "
174 LET H$(2)="      "
176 LET H$(3)="      "
178 LET H$(4)="      "
180 LET H$(5)="      "
182 LET H$(6)="      "
184 LET H$(7)="      "
186 LET H$(8)="      "
450 REM SCREEN SET UP
500 PRINT AT 0,0;"
510 FOR N=1 TO 20
520 PRINT "
530 NEXT N
540 PRINT "
550 PRINT AT 20,1;" KEYS: (Z)-(X
)     KEYS: (N)-(M)"
600 PRINT AT 3,0;"
610 PRINT AT 1,15;" ";AT 2,15;"
"
650 PRINT AT 1,4;"PLAYER 1";AT
1,20;"PLAYER 2";AT 2,4;"HITS= ";
V;AT 2,20;"HITS= ";J
900 PRINT AT 19,0;"
911 PRINT AT 5,0;"
912 PRINT AT 6,0;"             G
LADIATOR
913 PRINT AT 7,0;"
914 PRINT AT 8,0;"
915 PRINT AT 9,0;"
999 REM START OF GAME
1000 FOR I=1 TO 8
1010 PRINT AT 10+I,Y;A$(I);AT 10
+I,Z;B$(I)
1012 NEXT I
1030 REM MOVEMENT
1040 IF INKEY$="X" THEN LET Y=Y+
1
1045 IF INKEY$="Z" THEN LET Y=Y-
1
1050 IF INKEY$="M" THEN LET Z=Z+
1
1055 IF INKEY$="N" THEN LET Z=Z-
1
```

```
1100 REM MOVEMENT CHECK
1200 IF Y<1 THEN LET Y=1
1220 IF Y>19 THEN LET Y=19
1240 IF Y=Z-6 THEN GOSUB 2000
1250 IF Z<1 THEN LET Z=1
1260 IF Z>24 THEN LET Z=24
1300 GOTO 1000
1900 REM ATTACK START
2000 FOR I=1 TO 6
2010 PRINT AT 10+I,Y;C$(I);AT 10
+I,Z;D$(I)
2020 NEXT I
2021 REM SEE IF HIT
2022 LET K=INT ((RND*10)+1)
2023 IF K>5 THEN LET V=V-1
2024 PRINT AT 2,10;V
2026 IF V=0 THEN GOTO 5000
2100 LET N=INT ((RND*10)+1)
2109 IF N>5 THEN LET J=J-1
2110 PRINT AT 2,26;J
2120 IF J=0 THEN GOTO 3000
2500 GOTO 1030
3000 REM PLAYER 2 DIES
3094 FOR I=1 TO 8
3960 PRINT AT 10+I,Z;E$(I);AT 10
+I,Y;G$(I)
3980 NEXT I
3985 FOR N=1 TO 40
3990 PRINT AT 20,2;"  PLAYER 1 H
AS KILLED YOU  "
3994 PRINT AT 20,2;"  PLAYER 1 H
AS KILLED YOU  "
3998 NEXT N
4000 GOTO 8000
4999 REM PLAYER 1 DIES
5000 FOR I=1 TO 8
5010 PRINT AT 10+I,Y;F$(I);AT 10
+I,Z;H$(I)
5030 NEXT I
5040 FOR N=1 TO 40
5050 PRINT AT 20,2;"  PLAYER 2 H
AS KILLED YOU
5060 PRINT AT 20,2;"  PLAYER 2 H
AS KILLED YOU
5070 NEXT N
5100 GOTO 8000
8000 FOR N=1 TO 22
8010 SCROLL
8020 NEXT N
8025 FAST
8030 PRINT AT 0,0;"
8040 PRINT AT 1,0;"
8050 FOR N=1 TO 18
8060 PRINT "
8070 NEXT N
8080 PRINT AT 20,0;"
8090 PRINT AT 21,0;"
8100 SLOW
8110 PRINT AT 3,10;"*WELCOME TO*
";AT 5,10;"*GLADIATORS*"
8120 PRINT AT 7,2;"THIS IS A GRA
PHICAL GAME OF ";AT 8,2;"      CO
MBAT BETWEEN TWO
";AT 9,2;"GLADIATORS IT
8130 PRINT AT 9,2;"GLADIATORS IT
 CAN BE PLAYED ";AT 10,2;"IN TWO
 DIFFERENT WAYS EITHER"
8140 PRINT AT 11,2;"1) YOU AGAIN
ST THE COMPUTER ";AT 12,2;"2) YO
U AGAINST A FRIEND
8150 PRINT AT 13,2;"NOTE YOU CAN
 CHANGE SIDES AT";AT 14,2;"AT AN
Y TIME
8160 PRINT AT 15,2;"TO MOVE GLAD
IATOR ""K"" USE    ";AT 16,2;"KEY
S (Z)-(X)
8170 PRINT AT 17,2;"TO MOVE GLAD
IATOR ""L"" USE
8180 PRINT AT 18,2;"KEYS (N)-(M)

8190 PRINT AT 20,3;"PRESS ANY KE
Y TO CONTINUE."
9192 IF INKEY$="" THEN GOTO 9192
9195 GOTO 3
9996 STOP
9997 REM SAVE ROUTINE
9998 SAVE "GLADIATOR"
9999 GOTO 1
```

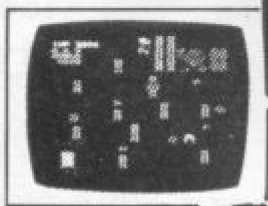






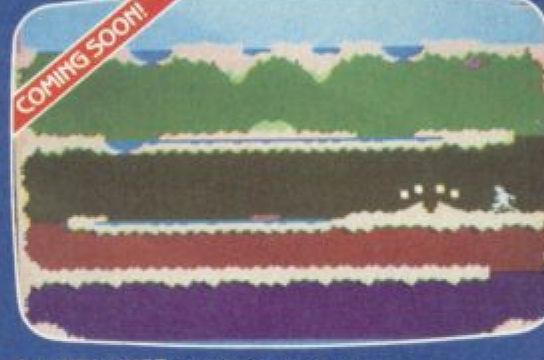
FROGGY
BY DJL SOFTWARE
ZX SPECTRUM 16K/48K







HYPERBLAST 16K by John Brierley
Simply the best arcade-action game ever written in 16K! Defend your Atari against 10 waves of the most awesome creatures ever to inhabit your TV screen!



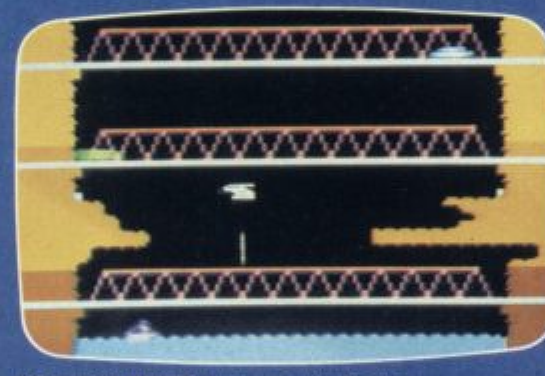
CAVERUNNER 32K by Martin Cawley
It's a leap and a bound through dangerous waterfalls, across exploding volcanoes, braving sticks and stones after the prizes of a lifetime!



AIRSTRIKE 2 16K by Steve Riding
The new version with incredible graphics and joystick bomb control! English Software's best scrolling game ever!
AIRSTRIKE 1 STILL AVAILABLE



JET BOOT JACK 16K by Jon Williams
You are our intrepid hero, jetting along infested caverns, climbing moving elevators and more...much more! Ten screens to conquer, you'll need the will to survive.



KRAZY KOPTER 16K by Tim Huntington
Fleeing secret agents, enemy ships and blasting cannon make Krazy Kopter the wildest game you'll ever play!



ESCAPE FROM PERILOUS 32K by S. Barnes and P. Pettit
– Seek swords, wands, pentacles and cups – avoid deathtraps, Deimos and Phobos and escape!
GRAPHIC ANIMATED ADVENTURE

ATARI 400 & 800 OWNERS...
TAKE THE ULTIMATE SCREEN TEST

Games to excite you. Games to stretch your skills to the limit, and beyond. English Software programmes will always put you to the ultimate test.
But first, put us to the test. See the quality of all our screens for yourself at your English Software dealer, including leading Spectrum shops – or order any programme direct from us.
You'll find that we'll pass your screen test not just once, but every time!



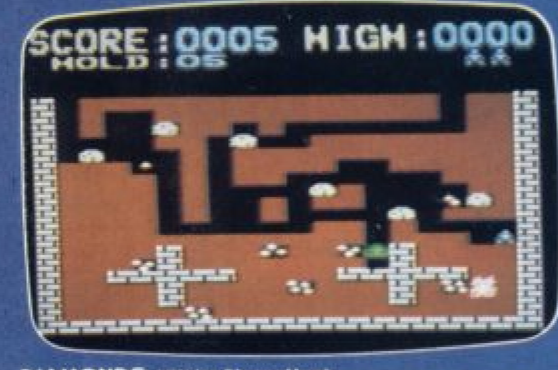
VENUS VOYAGER 2 16K by Christopher Daniel
Multiple screen lander simulation – choose your sites, avoid all the hazards and rescue your stranded comrades.



CAPTAIN STICKY'S TREASURE 16K by Steve Riding
Steve's latest game sends you to the bottom of the ocean in search of lost gold, with only your harpoon to help you!



XENON RAID 32K by John Brierley
Super speed superb graphics! John's first Atari classic! Use your scout ship to attack, dock with the drone and re-energise! It's you vs. the Xenons.



DIAMONDS 16K by Simon Hunt
Join the hunt for the Great White Diamond through 16 levels to win a real diamond – full details of the Diamonds Competition with every copy!

ENGLISH™ SOFTWARE

THE POWER OF EXCITEMENT
The English Software Company,
50 Newton Street, Piccadilly, Manchester M1 2EA.
TELEPHONE 061-236 7259

ALL CASSETTE & DISK GAMES
£14.95
CARTRIDGES £29.95
FREEPOST



TIME WARP 16K by Christopher Daniel
Real time graphic adventure – you must collect weapons, armour and supplies to capture the enchanted ring. (Full save game features on cassette and disk).

JUST OUT! JUST OUT! JUST OUT!
Marathon/Maths for Fun 16K
Word Olympics 32K – Firefleet 32K

NEW! NEW!
A.C.E., THE ATARI CASSETTE ENHANCER
by Jon Williams
Cassette features include: Names cassette-saved programs. Searches and loads named program. Displays contents of cassette on screen. Verify facility. Lists variables. Automatic line numbering. Renumbers any basic program quickly. Creates binary files on tape. Plus many, many more features. Use only 4K of memory maximum! £7.95

TRADE DISTRIBUTION: CALISTO, CENTRE SOFT, SOFTSEL C.P.
DEALERS: CONTACT US NOW!
ATARI IS A T.M. OF ATARI INC.

NEW FOR THE COMMODORE 64
SUPERFONT 4.0 Cassette Our new character generator lets you re-define and shape your own character sets. Full editing facilities and documentation. £6.95
SPRITE MAKER 64 Cassette Design and save beautiful multicoloured sprites, and use them in your own programmes! Full editing facilities and documentation. £6.95

PROGRAMMERS: CAN YOU PASS OUR SCREEN TEST?
We're always on the lookout for new programmers. If you can work to the English Software standard of quality, we'll reward you by marketing your programmes across Europe and the USA! Contact us today.

VIC 20 / COMMODORE 64 / BBC 'B' / SPECTRUM 16K

24 HOUR ORDER SERVICE Tel (0242) 82741

2130 Can you beat that?



TAKE UP THE CHALLENGE OF POSTERN'S *Imaginations Unlimited*

...and see if you can beat Luke's super scores!



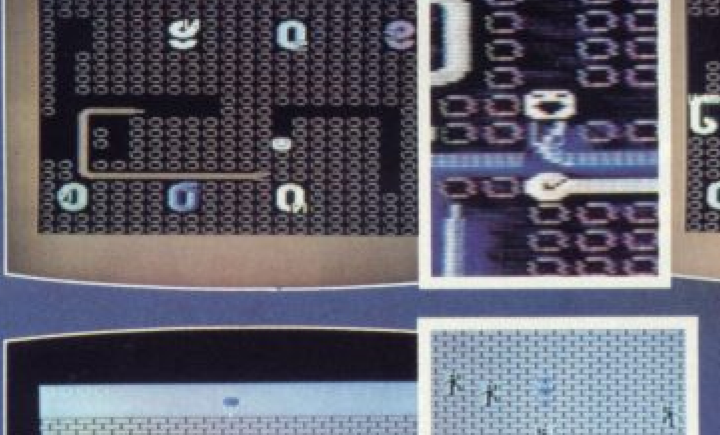
SHADOWFAX
Fight the black riders whose touch is death. You must guide **Shadowfax** as Gandalf's swift white horse braves the dread riders of Sauron, Dark Lord of Mordor. How many will your thunderbolts destroy? Magnificent graphics.

Luke says — "It's 7-riffic. The better you do, the bigger the challenge." 2130 to beat! Do you have the lightning-fast eye to beat Luke at his favourite game?*



SNAKE PIT
Imagine yourself in a snake pit. The snakes and their eggs must be gobbled up before the snakes eat the Gobbler ... who must eat the last egg before the first snake. Eat the eggs, and more snakes are freed to attack. Eat all the snakes and the game begins again ... but faster! Faster!

Luke's comment: "Better than Pacman. It's a reely fun game! 12570 eggs to gobble if you want to beat my best. Get it?"*

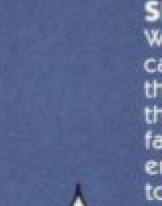


SIEGE
Watchfulness and skill protect your castle from the encircling marauders in this **Siege.** Drop rocks to dislodge them, and their anger makes them faster ... and faster! Are you fast enough to hold them back from the top of the wall? Speed your reflexes.

Luke says — "Bet you can't keep the Glooms away as long as I did?" 4360 to beat! That's difficult.*

Is Luke only a boy, or has constant exposure to Postern Imaginations Unlimited given him new powers in the world of the imaginations? Find the answer yourself with these new Imaginations Unlimited games.

POSTERN *Imaginations Unlimited*



Got a good game or game idea? Luke says "If it's really good, send it to me soon. I'm testing lots more games for Postern. We're big enough to pick the best from a big range of games — so watch these pages for the very best in games! Write to me with your super scores, too!"

*The scores quoted were achieved on a Spectrum computer — Different computers give different score potential.

Look for the **IMAGINATIONS UNLIMITED** symbol — only on games from Postern — to offer you a really super challenge!

Available from many computer stores.

To order by post please send your cheque, postal order or Access/Visa card number with this coupon. ⟶

To: **Postern Limited**
P.O. Box 2, Andoversford
Cheltenham, Glos. GL54 5SW
or telephone: (0242) 82741
(24 hour order service)

Please send me: (Write quantity in box/es) On Tape On Disk
SHADOWFAX at £7.99 or £9.99
SNAKEPIT at £7.99 or £9.99
SIEGE at £7.99 or £9.99
Total £ ____ or Access/Visa no. (Delete)
Name:
Address:

COMPUTER TYPE: (Tick box)
Commodore 64 VIC 20
BBC 'B'
Spectrum
No disc for Spectrum.

(Trade enquiries: Telephone (045 16) 666, Telex 43524, Prestel 37745)

COMMODORE 64 GAMES ARE NOW AVAILABLE ON DISKETTE FOR ONLY £2.00 EXTRA

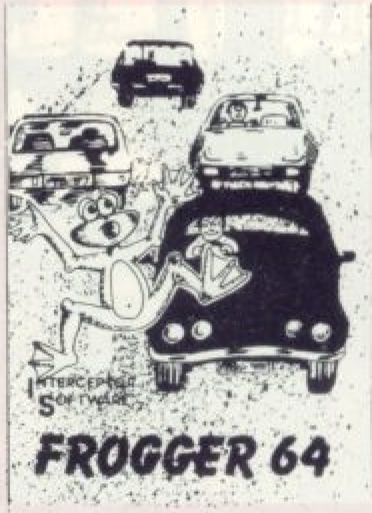
6 NEW GAMES FOR YOUR commodore 64

INTERCEPTOR MICRO'S PRESENTS

SEND S.A.E. FOR FULL LIST OF GAMES

















2 NEW GAMES FOR YOUR ATARI 400/800–16K



NEW GAME FOR YOUR BBC MODEL B



NEW VIC 20 GAMES

Mr, Mrs, Miss
Address

Quantity	Item		Total		Item		Total
	Scramble 64	£7.00			Galaxzions Vic 20	£5.00	
	Star Trek 64	£7.00			Fantazia Vic 20	£6.00	
	Frogger 64	£7.00			Crazy Kong Vic 20	£6.00	
	Panic 64	£7.00			Frog Vic 20	£4.00	
	Crazy Kong 64	£7.00			Alien Attack Vic 20	£6.00	
	Spriteman 64	£7.00			Vic Rescue Vic 20	£5.00	
	Fighter Pilot Atari	£7.00			Penny Slot Vic 20	£4.50	
	Wordhanger Atari	£5.00					
	Intruders BBC	£5.00					
	Jupiter Defender	£6.00			P&P		50
					Total		

Send Cheque/P.O. with Order to: Interceptor Micro's, Lindon House, The Green, Tadley, Hants.

Postage & Packing .50p

CVG

STOP PRESS 1 NEW VIC 20 FALCON FIGHTER STOP PRESS STOP PRESS
ONLY £6.00

GREAT SOFTWARE DISASTERS

Cheques cashed and programs not delivered seems to be the biggest problem area in the home computer industry's reputation. The second of our Great Software Disaster columns wrote itself after a deluge of letters about disappointed youngsters who had waited months for a cassette which was still to arrive. We've printed a small cross section of the letters below and phoned up several software companies to find out why delays may occur, how long it is reasonable to wait before assuming that something has gone wrong and how to go about complaining.

LOSTA SNATCHA

One afternoon in March, having saved up all my money to splash out on a program for my Vic-20, I wrote to Imagine Software requesting a Catcha Snatcha for £5.50.

I waited for three days for it to come, the date by which their advert claimed I would have it. Living in London, I couldn't go to Liverpool to complain and I was at school whenever I might have been able to phone.

Christopher Morgan,
Chartton Place,
London SW1

Eugene Evans of Imagine came back positively on this one. "As of now there are no delays. And we do have a complaints procedure for dealing with customers who are suffering from postal delays.

"Part of the problem in the past was that magazines need copy for adverts a long time before the issues actually come out. We would book the advert at the same time we started work on the game so we could have it ready at the same time the magazine hit the streets. But to do this, meant there could not be the slightest delay in production.

"Now there are no problems in timing as we have all our latest titles in stock before we launch them. Our claim of 48 hour delivery time is definitely now in action."

On Imagine's behalf, I would like to add, Christopher, that *C&VG* phoned their offices at 5.45pm, so don't be afraid to phone when you come home from school.

No black marks against Quicksilva's mail-order department so we decided to ask how they keep their customers happy.

Mark Tilson of Quicksilva's production department explained: "We aim to turn around a cassette in seven days between receiving the order and the game actually landing on the customer's mat.

"We do have our problems though and, like most software houses, we are in the hands of the tape duplicating companies and sometimes hold-ups do occur. The reason being that when stocks run down we order new copies, say 5,000 tapes, and we occasionally have to wait a long time — in extreme cases as long as a month."

Legally mail-order customers are not on secure ground. The Office of Fair Trading spokeswoman, Lindsay Keith said: "The biggest problem with mail order is that people are asked to pay in advance. The company can go bust. They may not send off your goods or they may send faulty goods.

"The Advertising Standards Authority lays down 28 days for delivery of mail order goods but it helps to know as much about the company you're dealing with as possible before ordering from them.

"There is nothing to stop a company from cashing a cheque as soon as it arrives even if the goods have been held up."

CLUB LETDOWN

In February this year my son joined, through your magazine, the Microcomputer Software Club and, shortly afterwards, he received the newsletter advertising various cassettes.

He decided to purchase the game tape Golf, completed the form and posted it with a cheque for the correct amount. The cheque has been cashed but as of late May, the tape had still not arrived.

Would you please investigate and let me know why the tape has not been sent.

A. R. Gardiner,
Bishopbriggs,
Glasgow.

John Durrant of Microcomputer Software Club replies: "We usually promise a 24 hour turn-around on receiving an order. The club keeps an average 50-100 tapes of each title in stock and this is put up to 3-500 on the biggest sellers.

"Occasionally when a manufacturer is having production problems, club members can wait as long as a week. But this is rare and the reason for using the club rather than going direct to the manufacturers is the fast reliable turn-around.

"Our policy on complaints of non-delivery, or the occasional bad loader, is to send it out again and ask the purchaser to send one tape back if two arrive."

He added that Mr Gardiner need only write to the club or phone membership secretary Mrs King on Oxford 730275 and a new tape will be despatched.

ANGRY ADVENTURER

For seven months now I have been waiting for five games from C.P.S. Limited which were advertised as follows: The Fourth Kind, The Doomed City, Wizard of Shan, The Ghost of Radun and Convoy.

I sent for these on November 9th 1982 and included a cheque for £47.50 and after repeated 'phone calls and numerous letters, I still have not received the games, or any money back. I understand that C.P.S. now call themselves Chameleon Computer Games.

D. K. Ditchburn,
Nunthorpe,
Middlesbrough

Let us put you right on one point Mr Ditchburn, Chameleon Computer Games are not the same company as C.P.S. Chameleon did have an agreement to market three C.P.S. games, but have since withdrawn that agreement and impounded royalties to C.P.S.

Great Software Disasters is our watchdog on the industry. If there's anything which has angered you, software, hardware or computer company, please write in and tell us and we'll look into it and publish your views.

We only insist that companies must be given a chance to answer their critics before we publish. Write to: Great Software Disasters, Computer & Video Games, Durrant House, Herbal Hill, London EC1R 5JB.

ARCADE ARENA



Welcome to Arcade Arena where you have the chance to prove yourself the fastest hand on the Spectrum, Oric, or whatever, keyboard.

This issue sees four games listings for the Atari, Spectrum, Sharp and Vic-20. Next issue we've commissioned another four for different machines.

Each is a special arcade game which will test your co-ordination to the limit. But if you're under 16 and think you can take on all-comers at the game and end up with a top score, then we want to hear from you.

Put up the highest score you can on the machine and get one of your parents or a teacher at school to witness the score and fill in the form on page 82.

Score duly recorded and signed by your willing witness send it into us at *C&VG* before September 16th. The top three on each game will be invited to a final to further test their skills, at the Brainwave Computer Exhibition in November.

BALLOONACY

```
100 DIM A$(640),B$(10),C(7),P$(10),CV(7)
,H$(10),N$(10),SK$(10),SC(7)
110 RT=64:A=RT-8:POKE 106,A:GRAPHICS 18
114 POKE 704,56:POKE 708,234:POKE 710,15
2
120 POKE 54279,A:PMB=256*A:POKE 559,46:P
OKE 53277,3:CHB=PMB+1024
130 VTAB=PEEK(134)+PEEK(135)*256
140 ATAB=PEEK(140)+PEEK(141)*256
150 OFFS=PMB+384-ATAB:HI=INT(OFFS/256):L
O=OFFS-HI*256
160 POKE VTAB+2,LO:POKE VTAB+3,HI
170 FOR J=1 TO 10:READ A:SK$(J,J)=CHR$(A
):NEXT J
171 DATA 0,62,42,62,20,28,65,62,65,0
180 A$(1)="":A$(640)="":A$(2)=A$
185 FOR J=225 TO 232:READ A:A$(J,J)=CHR$
(A):NEXT J
186 DATA 8,28,28,73,62,28,20,20
188 COLOUR=1010:GOSUB 1000:RESTORE 265
210 POSITION 6,3:? #6;"W a i T":POSITION
 5,11:? #6;"BaLlOoNaCY"
250 FOR J=0 TO 511:POKE CHB+J,PEEK(57344
+J):NEXT J:POKE 756,RT-4
260 FOR J=24 TO 39:READ A:POKE CHB+J,A:N
EXT J
265 DATA 223,223,223,0,251,251,251,0
266 DATA 28,62,62,28,28,28,8,0
268 RESTORE 186:FOR J=40 TO 47:READ A:PO
KE CHB+J,A:NEXT J
270 RESTORE 266:FOR J=2 TO 9:READ A:B$(J
,J)=CHR$(A):NEXT J:B$(1,1)=CHR$(0)
275 FOR J=1 TO 10:READ A:P$(J,J)=CHR$(A)
:NEXT J
276 DATA 0,86,169,130,65,1,130,92,32,0
280 FOR J=0 TO 7:READ A:SC(J)=A:NEXT J
281 DATA 12,10,8,6,6,8,10,12
290 POKE 1791,0:DLIST=PEEK(560)+256*PEEK
(561):POKE DLIST+6,135:RESTORE 1400:J=15
36
291 READ A:IF A<>-1 THEN POKE J,A:J=J+1:
GOTO 291
292 POKE 512,0:POKE 513,6:POKE 54286,192
293 SC=0:DL=8:LV=1:B=10:HB=B:LEVEL=0:LIV
ES=3:POKE 764,255:H$=B$:T=100
295 COLOR 35:PLOT 0,11:DRAWTO 19,11:COLO
R 5:PLOT 1,11:PLOT 2,11:PLOT 3,11:POSITI
ON 9,11:? #6;LEVEL+1
300 FOR J=30 TO 120:POKE 53248,J:SOUND 0
,100+T,8,15:T=-T:NEXT J:SOUND 0,0,0,0
305 POKE 77,0:POKE 1790,120:POKE 1791,1:
DL=DL-1:LV=(LV=0):HB=HB+2:B=HB:IF B>30 T
HEN B=30
310 RESTORE 1500+100*LV:GOSUB 1500+100*L
V:FOR J=0 TO 7:READ A:C(J)=A:NEXT J:IF D
L<0 THEN DL=0
320 FOR J=1 TO 5:SOUND 0,82,10,10:FOR K=
1 TO 10:NEXT K:SOUND 0,0,0,0:FOR K=1 TO
```

RUNS ON AN ATARI 400/800 IN 16K

BY SIMON GOODWIN

Can you become Top of the Poppers? No, not yet another bunch of pretty musicians. This Popper aims to become number one in the balloon bursting charts! And all you need is a silly hat with a sharp pointed spike on top. What, you haven't got one! Oh well, never mind the Atari mad hatter will supply you with one as soon as you've keyed in this game.

The idea is to manoeuvre your little man with the spiked hat around at the bottom of the screen, placing him under balloons which drift down from the sky above him. If you miss and a balloon hits the ground you lose one of your three lives. But you can save yourself by booting the balloon back into the sky with a well aimed kick. As long as the balloon is below head height and the little man is near enough then he'll be able to save a life.

Some balloons are tricky and turn into skull and crossbones before reaching the ground — these must be avoided at all costs. To get beyond the first screen you must burst 12 balloons. The second tests you with 14 balloons, the third 16 and so on.

The balloons drop faster on each subsequent screen and more of them drop diagonally instead of vertically. You score for each balloon popped and a bonus is given when you complete a screen. You can freeze the action at any time by pressing any key.

Program Notes:

Line 180. The string assignments are to "CONTROL COMMA" (the heart shape). The printer prints this as a space.

Line 210. Any mixture of inverse, upper and lower case will do in the title, just to make it attractive.

Line 383. As line 180.

Line 435. As line 180.

Line 550. The word "START" is in inverse.

Line 576. As line 180.

To make it easier to kick a balloon, alter line 400 so that the tests on "P" are greater than 4.

To make it easier to pop a balloon, alter line 372 so that the tests on "P" are greater than 2.

Hints on Play:

After popping a ballon, immediately return to the centre of the screen. This is critical on the higher levels of play.

It is safe to pass through the skull and crossbones once it has missed your head; but don't kick it.

Don't panic trying to get exactly lined up. It is often easier to accept that you are off centre for the baloon, and wait and kick it up again, than to keep pulling on the stick trying to move just that little bit.

GULBIS

```
20:NEXT K:NEXT J:IF DL<0 THEN DL=0
330 A=INT(RND(0)*8):IF C(A)=-1 THEN 330
335 IF PEEK(764)<>255 THEN GOSUB 610
340 X=0:IF RND(0)*12<LEVEL THEN X=RND(0)
/2:IF RND(0)>0.25 THEN X=-X
350 IF (A=0 AND X<0) OR (A=7 AND X>0) TH
EN X=-X
352 SKP=336-LEVEL/2:B$=H$:NC=CV(A):N$=H$
:IF RND(0)<0.15 THEN NC=14:N$=SK$
355 IF SKP<332 THEN SKP=332
360 D=64+16*A:POKE 705,CV(A):POKE 53249,
D:V=C(A)*8+272:COLOR 0:PLOT A*2+2,C(A)
365 D=D+X:POKE 53249,D:A$(V,V+9)=B$:V=V+
1:IF STRIG(0)=0 THEN BOOT=1
366 IF V<SKP THEN FOR K=1 TO DL:NEXT K:G
OTO 365
367 B$=N$:POKE 705,NC
370 D=D+X:POKE 53249,D:A$(V,V+9)=B$:V=V+
1:IF STRIG(0)=0 THEN BOOT=1
371 IF V<346 THEN FOR K=1 TO DL:NEXT K:G
OTO 370
372 P=PEEK(1790):IF P>D-2 AND P<D+2 THEN
 GOSUB 900:GOTO 380
374 D=D+X:POKE 53249,D:A$(V,V+9)=B$:V=V+
1:IF STRIG(0)=0 AND BOOT=0 THEN 400
375 IF V<354 THEN FOR K=1 TO DL:NEXT K:G
OTO 374
376 DR=1
380 C(A)=C(A)-1:B=B-1:IF DR=1 THEN DR=0:
GOSUB 420
383 A$(V,V+B)="":IF B>0 THEN FOR J=1 TO
150:NEXT J:BOOT=0:GOTO 330
390 POKE 1791,0:FOR J=0 TO LEVEL:POSITIO
N 8,8:? #6;"bonus":SOUND 0,150,10,15:SC=
SC+10*(LEVEL+1)*LIVES
392 POSITION 14,11:? #6;SC:FOR K=1 TO 10
0:NEXT K:POSITION 8,8:? #6;"     "
395 SOUND 0,0,0,0:FOR K=1 TO 100:NEXT K:
NEXT J:IF SC>4999 AND EX=0 THEN GOSUB 60
0
396 LEVEL=LEVEL+1:COLOR 0:FOR J=0 TO 5:P
LOT 0,J:DRAWTO 19,J:NEXT J:GOSUB 1000:PO
SITION 9,11:? #6;LEVEL+1:GOTO 300
400 BOOT=1:P=PEEK(1790):IF P<D-4 OR P>D+
4 THEN GOTO 374
405 FOR K=12 TO 15:SOUND 1,100,10,K:NEXT
 K:FOR K=15 TO 0 STEP -5:SOUND 1,100,10,
K:NEXT K
407 IF NC<>14 THEN 410
408 NC=0:GOTO 376
410 V=V-2:X=ABS(P-D)/12:IF D>125 THEN X=
-X
412 GOTO 500
420 IF NC=14 THEN 450
421 COLOR 35:PLOT LIVES,11
425 POKE 1791,0:FOR J=15 TO 0 STEP -0.75
:FOR K=2 TO 10 STEP 2:POKE 704,K*J:SOUND
 0,J*K,2,J:NEXT K:NEXT J
430 LIVES=LIVES-1:POKE 704,56:IF LIVES=0
 THEN B=0:GOTO 550
435 A$(V,V+8)="":FOR J=30 TO 120:POKE 53
248,J:SOUND 0,100+T,8,15:T=-T:NEXT J:SOU
ND 0,0,0,0
440 POKE 1790,120:POKE 1791,1:RETURN
450 FOR J=8 TO 15:FOR K=15 TO 1 STEP -3:
SOUND 0,J*K,14,15:POKE 705,J*K:NEXT K:NE
XT J:SOUND 0,0,0,0:RETURN
500 D=D+X:POKE 53249,D:A$(V,V+9)=B$:V=V-
1:IF V>312 THEN FOR K=1 TO DL:NEXT K:GOT
O 500
510 V=V+1:BOOT=0:GOTO 370
550 RESTORE 590:POSITION 3,6:? #6;"PRESS
 START TO":POSITION 5,7:? #6;"play again
"
570 IF PEEK(53279)<>6 THEN 580
575 COLOR 0:PLOT 3,6:DRAWTO
16,6:PLOT 5,
7:DRAWTO 14,7:FOR J=0 TO 5:
PLOT 0,J:DRAW TO 19,J:NEXT J
576 POKE 53249,0:A$(V,V+8)=""
:B$=H$:COLOUR=1010:GOSUB 1000:GOTO 293
580 READ A:IF A=-1 THEN RESTORE 590:GOTO
580
585 SOUND 0,A,10,15:FOR J=1 TO 22:NEXT J
:READ A:SOUND 0,A,10,10:FOR J=1 TO 32:NE
XT J:GOTO 570
590 DATA 243,121,193,121,162,121,144,121
,136,121,144,121,162,121,193,121
591 DATA 243,121,193,121,162,121,144,121
,136,121,144,121,162,121,193,121
592 DATA 182,91,144,91,121,91,108,91,102
,91,108,91,121,91,144,91
593 DATA 243,121,193,121,162,121,144,121
,136,121,144,121,162,121,193,121
594 DATA 162,81,128,81,108,81,96,81,91,8
1,96,81,108,81,128,81
595 DATA 182,91,144,91,121,91,108,91,102
,91,108,91,121,91,144,91,-1
600 LIVES=LIVES+1:EX=1:COLOR 5:PLOT LIVE
S,11:RETURN
610 POKE 1791,0:FOR J=1 TO 50:NEXT J:POK
E 764,255
620 IF PEEK(764)<>255 THEN POKE 1791,1:P
OKE 764,255:RETURN
630 FOR J=1 TO 50:NEXT J:GOTO 620
900 IF NC=14 THEN 930
910 A$(V,V+9)=P$:SOUND 0,5,8,15:FOR K=1
TO 5:NEXT K:SOUND 0,0,0,0:SC=SC+SC(A)*(L
EVEL+1)
920 POSITION 14,11:? #6;SC:RETURN
930 NC=0:POP :GOTO 376
1000 RESTORE COLOUR:FOR J=0 TO 3:READ A:
CV(J)=A:NEXT J:COLOUR=COLOUR+10:IF COLOU
R=1070 THEN COLOUR=1010
1004 CV(4)=CV(0):CV(5)=CV(3):CV(6)=CV(1)
:CV(7)=CV(2)
1005 POKE 708,CV(2):POKE 709,CV(1):POKE
710,CV(3):POKE 711,CV(0):RETURN
1010 DATA 70,186,234,152
1020 DATA 166,26,72,102
1030 DATA 202,26,8,122
1040 DATA 182,246,218,86
1050 DATA 28,184,120,246
1060 DATA 24,54,252,168
1400 DATA 72,173,255,6,240,25,173,0,211,
106,106,106,176,5,206,254,6,144,6,106,17
6,3,238,254,6,173,254,6,141,0,208
1402 DATA 104,64,-1
1500 FOR J=0 TO 5
1510 COLOR 4:PLOT 4,J
1520 COLOR 36:PLOT 6,J
1530 COLOR 164:PLOT 8,J
1540 COLOR 132:PLOT 10,J
1550 COLOR 164:PLOT 12,J
1560 COLOR 4:PLOT 14,J:NEXT J:RETURN
1570 RETURN
1599 DATA -1,5,5,5,5,5,5,-1
1600 FOR J=0 TO 4
1605 COLOR 132:PLOT 2,J
1610 COLOR 4:PLOT 4,J
1620 COLOR 36:PLOT 6,J
1630 COLOR 164:PLOT 8,J
1640 COLOR 132:PLOT 10,J
1650 COLOR 164:PLOT 12,J
1660 COLOR 4:PLOT 14,J
1670 COLOR 36:PLOT 16,J:NEXT J:RETURN
1699 DATA 4,4,4,4,4,4,4,4
```

```
0 PRINT"ⒿⓆⓆⓆⓆ ▒▒ ◥ L ▼ ◥ ▀ ▒ ◤ ▼ ▼"
1 PRINT" ▒▒  ||"▀▒"▀▒ ▀ ▒ ┐"▀▼▒▼"
2 PRINT" ▒▒  ||"◥"◥ ▀ ▒ ▄  ▼▼▒▼"
3 PRINT" ▒▒ ▀▼▒ ||  ▀▒  ▀▒  | |▀▼▒ ▀▼▒ ▀"
4 PRINT
5 PRINT"
6 PRINT"       ▒▒  | ▀  ▒ ◤ ▼ ▒ "
7 PRINT"        ▒▒ ▀ ▒ ▀  ▒ | ▀ ▀ ▒ "
8 PRINT"        ▒▒ ▀ ▒ ◤◥ | ▀ ▀"
9 PRINT:PRINT"        ▒▒ ▀ ▼▼▼▒ ▀ ▒ "
10 PRINT"         ▒▒ THE SEQUEL  "
11 PRINT"        ▒▒          "
12 FORJ=1TO3:FORI=0TO255:POKE36879,I:NEXTI,J      ▒▒ BY PAUL JAY "
13 POKE52,28:POKE56,28:CLR
14 FORI=0TO511:POKE7168+I,PEEK(32768+I):NEXT
15 POKE36879,185:FORI=7432TO7503:READQ:POKEI,Q:NEXT
16 DATA239,239,239,0,127,127,127,0,0,8,0,8,0,8,20,8,3,60,111,196,111,60,3,0,192,
60,246
17 DATA35,246,60,192,0,60,110,255,175,7,175,254,124,60,118,255,245,224,245,127,6
2
18 DATA65,0,73,42,28,42,129,8,0,24,60,126,126,60,24,0,255,255,255,255,255,255,25
5,255
19 PRINT"ⒿPLEASE LOAD 'NIBBLERS TWO'":NEW
```

```
0 POKE36869,255:GOSUB47:H=36864:V=36865:T=36866:U=36867:F=36877:G=36879:GOTO7
1 FORI=1TODE:NEXT:RETURN
2 FORJ=1TO100:ZZ=INT(RND(1)*2+10):VV=INT(RND(1)*8+32):POKEV,VV:POKEH,ZZ
3 GOSUB1:NEXTJ:POKEH,12:POKEV,38:RETURN
4 PRINTCHR$(147):POKEG,236:POKEG-1,15:FORI=0TO22:GOSUB6:NEXT
5 FORI=22TO0STEP-1:GOSUB6:NEXT:POKEF,0:RETURN
6 POKEH,12+I:POKEV,38+I:POKET,150-I:POKEU,174-I*2:POKEF,230+I:RETURN
7 AM=1:OK=1:NO=0:DE=100:SC=0:LE=1:B=34:INC=10:W=203:M=40:BR=33:C=30720
8 GOSUB4:GOSUB37
9 X=INT(RND(0)*42)+1:IFX>21THENX=X-21:D=-1:A=7701:N=37:GOTO11
10 D=1:A=7680:N=38
11 NP=A+(X*22)
12 POKENP,N:POKENP+C,0:GOSUB1:GOTO16
13 POKENP,32:NP=NP+D:IFPEEK(NP)=MTHENDE=5:GOSUB2:DE=100:GOTO42
14 IFPEEK(NP)=BRTHENPOKENP,32:AM=OK:POKE846,222:GOTO9
15 GOTO12
16 IFPEEK(W)=8ANDAM=OKTHENPP=7686:P=35:E=7679:OS=-1:AM=NO:GOTO19
17 IFPEEK(W)=39ANDAM=OKTHENPP=7695:P=36:E=7702:OS=1:AM=NO:GOTO19
18 GOTO13
19 IFPP=ETHEN13
20 POKEPP,P:POKEPP+C,1
21 IFPEEK(W)=64THEN24
22 GOSUB1:POKEPP,32:PP=PP+OS
23 GOTO19
24 IFPEEK(PP+22)=NTHENBP=PP+22:GOTO29
25 BP=PP+22
26 POKEBP,B:IFPEEK(BP+22)=NTHEN29
27 IFBP>8141THENPOKEBP,32:POKEPP,32:GOTO13
28 POKEBP,32:BP=BP+22:GOTO26
29 POKE849,222
30 POKEBP+22,39:POKEBP+22+C,2:POKEBP,32:POKEPP,32:GOSUB1:POKEBP+22,32
31 SC=SC+INC:IFSC>HITHENHI=SC
32 IFSC>10000ANDLE=3THENLE=4:DE=25:GOSUB39:GOTO35
33 IFSC>4000ANDLE=2THENLE=3:GOSUB39:INC=50:DE=50:GOTO35
34 IFSC>1000ANDLE=1THENLE=2:GOSUB38:DE=75:INC=20
35 PRINT"ⓈⓆⓆⓆⓆⓆⓆⓆⓆⓆⓆⓆⓆⓆⓆⓆⓆⓆⓆⓆⓆⓆⓡSCORE";SC;
36 AM=OK:GOTO9
37 GOSUB4:IFLE=1THENA$="▒!!!▥((▒!!!":GOTO40
38 GOSUB4:IFLE=2THENA$=" ▒!!▥((▒!! ":GOTO40
39 GOSUB4:IFLE=3THENA$="  ▒!▥((▒!  "
40 PRINT"Ⓙ":PRINT"▶▶▶▶▶▶▶Ⓢ)))))))))"
41 FORI=1TO21:PRINTTAB(7)A$:NEXT:FORI=8164TO8185:POKEI,41:POKEI+C,5:NEXT:RETURN
42 FORI=0TO9:GETZ$:NEXT:PRINT"ⒿⓆⓆⓆⓆⓆⓆYOUR SCORE WAS ";SC:PRINT"THE HIGHEST IS ";
HI
43 PRINT"ⓆⓆANOTHER GAME ?"
44 GETG$:IFG$=""THEN44
45 IFG$="Y"THEN7
46 END
47 FORI=828TO1019:READO:POKEI,O:NEXT
48 DATA169,15,141,14,144,120,169,82,141,20,3,169,3,141,21,3,88,96,10,15,16,64,16
0,0
49 DATA162,222,173,78,3,201,10,176,9,238,78,3,238,10,144,76,116,3,140,10,144,236
,78,3
50 DATA208,6,140,78,3,142,10,144,173,79,3,201,25,176,9,238,79,3,238,11,144,76,14
6,3
51 DATA140,11,144,236,79,3,208,6,140,79,3,142,11,144,173,80,3,201,16,176,9,238,8
0,3
52 DATA206,12,144,76,176,3,140,12,144,236,80,3,208,6,140,80,3,142,12,144,173,81,
3,201
53 DATA64,176,28,238,81,3,173,81,3,201,22,208,7,169,176,141,13,144,240,25,201,43
,208
54 DATA21,169,160,141,13,144,240,14,140,13,144,236,81,3,208,6,140,81,3,142,13,14
4,76
55 DATA191,234,169,0,141,14,144,120,169,191,141,20,3,169,234,141,21,3
56 DATA88,96,0,0,0,0,0,0
57 SYS828:POKE858,10:RETURN
```

Those dastardly interplanetary building biters, the Nibblers, are at it again! This time they have journeyed far out into the vastness of space, to the planet Pippo — just left a bit from the Cleethorpes Nebula! Here they have discovered the miraculous Towers of Twonko, one of the nine wonders of the universe, rivalling the Scones of Craddock, and even the awesome Grimace of Blackburn!

For those of you who have never heard the tale of the creator of the towers, one Twonko Higginbottom, here is his story . . .

Twonko Higginbottom was a freak. His parents were quite normal, all three of them. Their faces constantly wore scowls and hangdog expressions. A picture of perfect misery. But poor Twonko was born smiling. For the first time in the history of Pippo a Pippolian had smiled!

There was only one law on Pippo, one which everyone has to conform to — and that was "Thou shall not be nice!" So poor Twonko was banished to the land of the Gruntox, where Grooses sneer and Ratlings grouch.

Twonko was really sad about all this. He sat beneath a tree and started to laugh. He could not cry. He chuckled and chortled, sniggered and snickered so loudly that he disturbed a native of these miserable lands. "What's all this row?" shouted an angry voice from above Twonko's head. "It's me, Twonko Higginbottom," chuckled Twonko. "Go away! Get lost! Scram! Hop it!" said the angry voice, "go away you beaming buffoon!" The voice belonged to none other than Ralph the last of the Dithering Pigmies. "No, I'm not going!" smiled Twonko. And then it happened. Ralph the Dithering Pigmy reached up into the branches of the tree, plucked a fruit, and hurled it down.

The rest, as they say, is history. The fruit was a lemon. The lemon tasted sour and nasty. Twonko pulled the most miserable face ever seen on Pippo. The Pipponians saw his

RUNS ON AN UNEXPANDED VIC 20

BY PAUL JAY

SUPER NIBBLERS



altered visage and made him King. But, Twonko realising the taste of the lemon would soon wear off knew his sour face could not last for ever unless he had a regular supply of lemons.

So he got the people of Pi[illegible] to build two massive towers to keep a vast supply of lemons in — enough to keep his face sour for centuries to come. And they all lived miserably ever after . . .

But where, I hear you say, do the Nibblers come in to all this? Well, they are attacking Twonko's Towers and threatening to reveal his secret.

The object of the game is to bomb the Nibblers. To do this hold down the "–" key for Nibblers on the left and the "f1" key for Nibblers on the right. When one of these keys is pressed a missile appears and moves across the screen for as long as the key is held down. When the key is released so is the bomb.

There are four levels of play and these change automatically depending on your score. You get only one life — so beware the Nibblers. If they reach the lemons you've had it!

Program notes:
Make sure you load the first part of this program before you run it because it deletes itself. Then load "Nibblers Two".



BY FRANK ROONEY

EPID

RUNS ON A SHARP MZ80

Poor Stanley is about to catch a disease and only you can cure him! You are an antibody floating merrily around in Stanley's bloodstream. Suddenly your peaceful existence is shattered by a bunch of nasty germs! You must kill the germs before they manage to spread through Stanley's body and reach epidemic proportions.

There are three skill levels to choose from. The higher the level the nastier the disease, and the germs multiply faster! Your score is based on the time taken to wipe out the disease. If the germs get out of control you've missed your chance to save Stanley — who has to quickly get a penicillin jab! The antibody can be moved horizontally and vertically around Stanley's body.

```
MODIFICATIONS FOR MZ-80A
120 GETM$:IFM$=""THEN70
130 M=ASC(M$):IF(M<J)+(M>K)THEN70
860 J=49:K=57
950 DATA7,-41,8,-40,9,-39,4,-1,6,1,1,39,2,40,3,41
1050 PRINT" ), ":POKE53323,A
1100 PRINT"7 8 9▮▮▮▮▮\↑/▮▮▮▮▮4← →6▮▮▮▮▮/↓\▮▮▮▮▮1 2 3":POKE53626,A
```

```
10 REM  ┌─────────────────────┐
20 REM  |    E P I D E M I C  |
30 REM  | Frank Rooney - 5,83 |
40 REM  └─────────────────────┘
50 GOTO850
60 Q=0:GOSUB280:POKEW,A:T=0:TI$="000000"
70 IFQ=0THEN180
80 IFQ>5+5*DTHEN570
90 IFVAL(TI$)-T<4-DTHEN120
100 B=INT(RND(1)*894+S):IFPEEK(B)<>0THEN100
110 POKEB,Y:MUSIC"A0‾A":POKEB,P:Q=Q+1:T=VAL(TI$)
120 GETM$:M=PEEK(17828)
130 IF(M<J)+(M>K)THEN70
140 M=M-J+1:IFPEEK(W+V(M))=0THEN170
150 IFPEEK(W+V(M))=PTHENMUSIC"A0_A":Q=Q-1:GOTO170
160 GOTO70
170 POKEW,0:W=W+V(M):POKEW,A:GOTO70
180 MUSIC"A3‾C‾EA‾C‾E‾A6":PRINT"▮CONGRATULATIONS -"
190 PRINT"▮You have cured Stanley of his disease!"
200 SC=INT((1/VAL(TI$))*100*10↑D)
210 PRINT"▮▮▮▮▮          YOU SCORED";SC
220 IFSC>HSTHENPRINT"▮▮        THE HIGHEST SCORE !!!":HS=SC:GOTO240
230 PRINT"▮▮        Highest score =";HS
240 POKE4466,24:PRINT"  Do you want to try again ? (Y or N)▮"
250 GETX$:IFX$="N"THENPRINT"▮":END
260 IFX$="Y"THENPRINT"▮":GOTO990
270 GOTO250
280 PRINT"▮";
290 PRINT"::::::::::::::/──────────\:::::::::::::::::";
300 PRINT"::::::::::::: |          |:::::::::::::::::";
310 PRINT"::::::::::::: |          |:::::::::::::::::";
320 PRINT"::::::::::::::(  o    o  ):::::::::::::::::";
330 PRINT"::::::::::::::(    ω     ):::::::::::::::::";
340 PRINT"::::::::::::: |          |:::::::::::::::::";
350 PRINT"::::::::::::: |   ⌒      |:::::::::::::::::";
360 PRINT"::::::::::::::\          /:::::::::::::::::";
370 PRINT"::::::::::::::────┐  ┌────:::::::::::::::::";
380 PRINT":::::/──────────────────────────\::::::";
390 PRINT":::::|                           |:::::";
400 PRINT":::::|     ┌─┐          ┌─┐     |:::::";
410 PRINT":::::|     |:|          |:|     |:::::";
420 PRINT":::::|     |:|          |:|     |:::::";
430 PRINT":::::|     |:|          |:|     |:::::";
440 PRINT":::::\    /:\          /:\    /:::::";
450 PRINT"::::: |   |::\    o   /::|   |:::::";
460 PRINT"::::: |   |:::\      /:::|   |:::::";
470 PRINT":::::/     \:::|    |:::/     \:::::";
480 PRINT":::::||||||::: |    |:: ||||||:::::";
490 PRINT":::::00000:::: |    |:::00000::::::";
500 PRINT":::::::::::::: | ┌┐ |::::::::::::::";
510 PRINT":::::::::::::: | |:| |::::::::::::::";
520 PRINT"::::::::::/─────|:|─────\::::::::::";
530 PRINT"::::::::::       :::       ::::::::::▮":POKE54247,79
540 W=53790:FORI=1TO6-D
550 B=INT(RND(1)*894+S):IF(PEEK(B)<>0)+(B=W)THEN550
560 POKEB,Y:MUSIC"A0‾A":POKEB,P:Q=Q+1:NEXTI:RETURN
570 MUSIC"‾A4_A‾A_A‾A_A"
580 PRINT"▮YOU FAILED !!!"
590 PRINT"▮▮Poor Stanley will have to have....":FORI=1TO700:NEXTI
600 PRINT"▮   PENICILLIN":FORI=1TO500:NEXTI
```



EMIC

80K AND MZ80A

Explanation of PEEKS & POKES
POKE53258 to POKE54247 = video RAM.
POKE4466, X prints X lines down from the top of the screen.
POKE4465, X prints X columns across from the left of the screen.
POKE10167,1 removes the PEEK protect in SP-5025 basic to allow — PEEK(17828) which returns the ASC value of any key held down (NOT required on MZ-80A).

Main variables
D = skill level (1-3).
M$ = antibody movement key.
M = ASC code of movement key.
V(M) = increment of antibody movement.
W = current antibody position.
B = germ position.
Q = number of germs.

```
610 POKE4466,9
620 PRINT"   ╱‾‾‾‾‾‾‾╲"
630 PRINT" ╱           ╲"
640 PRINT"              ╲"
650 PRINT"              |"
660 PRINT"             ╱"
670 PRINT"            ╱"
680 PRINT"       ╲   ╱"
690 PRINT"       ╱  ╱"
700 PRINT"──────╱  |"
710 PRINT"      ╲  ╲"
720 PRINT"      |  ╲"
730 PRINT"      |  |"
740 PRINT"   ___|  |"
750 PRINT"  ╱     ╱"
760 PRINT"─────────────────────────────"
770 S$="  ______ ▒▒▒▒▒▒▒▒▒▒▒▒▒____▒▒▒▒▒▒▒▒▒___▐ ▒▒▒▒▒▒▒▒▒▒▒▒▒▒▒"
780 S$=S$+"▒▒▒▒▒▒▒▒▒▛▀▀▀▀▀▜ ▒▒▒▒▒▒▒▒▒▒▒▒▒▒▒"
790 FORI=24TO13STEP-1:FORH=1TO100:NEXTH:POKE4466,10:POKE4465,I:PRINTS$
800 NEXTI
810 FORH=1TO30:POKE53661,118:POKE53781,119:POKE53661,0:POKE53781,0:NEXTH
820 FORI=22TO18STEP-1:POKE4466,11:POKE4465,I:FORH=1TO100:NEXTH
830 PRINT"▒▙____▟ ▒▒▒▒▒▒▒▒▒▛▀▀▀▀▜  ":NEXTI
840 FORI=1TO1000:NEXTI:GOTO240
850 TEMPO7:S=53301:A=206:P=219:Y=107
860 J=65:K=90:A$=CHR$(103):POKE10167,1
870 PRINT"▒▒▒▒▒"
880 PRINT"     ▒▒▒ ▒▒▒ ▒ ▒▒▒ ▒▒▒ ▒▒▒▒ ▒ ▒▒▒"
890 PRINT"     ▒   ▒ ▒ ▒ ▒ ▒ ▒   ▒▒▒▒ ▒ ▒"
900 PRINT"     ▒▒  ▒▒▒ ▒ ▒ ▒ ▒▒  ▒ ▒▒ ▒ ▒"
910 PRINT"     ▒   ▒   ▒ ▒ ▒ ▒   ▒  ▒ ▒ ▒"
920 PRINT"     ▒▒▒ ▒   ▒ ▒▒▒ ▒▒▒ ▒  ▒ ▒ ▒▒▒"
930 PRINTTAB(10);"▒▒Frank Rooney, 1983"
940 DIMV(K-J+1):FORI=1TO8:READM,V(M):NEXTI
950 DATA17,-41,23,-40,5,-39,1,-1,4,1,26,39,24,40,3,41
960 FORH=1TO5
970 FORI=1TO300:NEXTI:READU:POKES+U,Y:MUSIC"_AOA‾A":POKES+U,74:NEXTH
980 DATA200,330,175,272,284
990 POKE4466,18:PRINT"  Do you want instructions ? (Y or N)"
1000 GETX$:IFX$="Y"THEN1030
1010 IFX$="N"THEN1220
1020 GOTO1000
1030 PRINT"▒Poor Stanley is about to catch a disease"
1040 PRINT"▒and it is up to you, the Antibody (";
1050 PRINTA$;"),"
1060 PRINT"to stamp out the germs before they reach"
1070 PRINT"▒epidemic proportions."
1080 PRINT"▒The Antibody can be moved using the"
1090 PRINT"following keys:":PRINTTAB(16);
1100 PRINT"Q W E▒▒▒▒▒ ↖↑↗▒▒▒▒▒A←";A$;"→D▒▒▒▒▒ ↙↓↘▒▒▒▒▒Z X C"
1110 PRINT"▒There are 3 skill levels which determine"
1120 PRINT"▒the type of disease to be combatted. The"
1130 PRINT"▒nastier the disease, the faster the"
1140 PRINT"germs multiply! The score is based on"
1150 PRINT"the time taken and the skill level."
1160 PRINT"▒Your mission will have failed should"
1170 PRINT"the disease get out of control, in which"
1180 PRINT"▒case poor old Stanley will have to"
1190 PRINT"resort to penicillin!"
1200 PRINT"▒      < Press any key to continue >▒"
1210 GETX$:IFX$=""THEN1210
1220 PRINT"▒▒Select SKILL LEVEL:▒▒"
1230 PRINT"▒▒     <1> Staphylococcus aureus infection"
1240 PRINT"▒             (a nasty germ)"
1250 PRINT"▒▒     <2> Escherichia coli infection"
1260 PRINT"▒             (a nastier germ)"
1270 PRINT"▒▒     <3> Leptospira canicola infection"
1280 PRINT"▒             (a really nasty germ)"
1290 PRINT"▒▒▒                < Press 1 - 3 >"
1300 GETD:IF(D=0)+(D>3)THEN1300
1310 GOTO60
```



Can you grab the treasure filled jars hidden in the attic of the haunted house before a ghastly ghost grabs you?

You control a cat-burlar out to remove the jars from their hiding place at the top of the house with many floors. You must find your way up a maze of ladders to the attic — avoiding the ghost which will chase you single-mindedly throughout your mission. You can briefly capture the ghost by using a snare and luring the phantom crime preventor into it — but the snares only last a few seconds and the ghost will soon be back on your trail.

Once you reach the jars you must carry them — one by one — back to your van parked outside the house.

You'll find a hammer on your travels through the house — this can be picked up and used to deal with the skeleton you'll find in the attic. If you run underneath it holding the hammer you'll score bonus points.

The ghost can render the hammer useless by rushing up to it and turning it red. So trap the ghost before it hits the hammer. When all the jars are in your van the next screen is displayed — and you start all over again, but with less time to beat the ghost!

You get three lives to start with and these can be lost if you get caught by the ghost.

Variables:

a,b: co-ordinates of man.
c,d: co-ordinates of ghost.
s: score.
hs: high score.
h$: high-scorers initials.
j: number of jars left.
j$: jar string (visual indication of jars left).
t: time left.
t$: visual indication of time left.
m$: visual indication of lives left.
u,g,h: general purpose flags.

BY ANDREW MURGATROYD

HAUNTED HOUSE

RUNS ON A SPECTRUM IN 48K

```
   1 REM     HAUNTED  HOUSE
   2 REM © A.J.MURGATROYD 1983
   3 REM         G 6 R O G
   4 CLEAR 34999: LET hs=0: LET
h$="AJM": PRINT AT 10,5; FLASH 1
;"PLEASE WAIT A MOMENT": GO TO 1
000
   5 IF ATTR (a+1,b)=6 THEN PRIN
T AT a+1,b; INK 4;"M"
   6 RETURN
  50 PRINT OVER 1; INK 2; PAPER
8;AT a,b;"A"
  51 IF a=4 AND b=15 AND h=1 THE
N BEEP .1,10: LET t=t+5: IF t>=2
0 THEN LET t=20: PRINT AT 2,0;"
": LET h=0: LET s=s+100: PRINT A
T 3,15; INK 6;" "
  52 LET a=a+(INKEY$="a" AND ATT
R (a+1,b)=2)-(INKEY$="q" AND ATT
R (a-1,b)=2)
  53 IF a=12 AND b=26 AND ATTR (
a,b+1)=5 THEN BEEP .1,20: PRINT
AT 12,27; INK 7;" ": PRINT AT 2,
0;"G": LET h=1
  54 LET b=b+(INKEY$="p" AND b<=
29 AND ATTR (a,b+1)<>6)-(INKEY$=
"o" AND b>=2 AND ATTR (a,b-1)<>6
)
  55 PRINT OVER 1;AT a,b; INK 9;
"A"
  56 IF INKEY$="z" THEN GO SUB 5
  57 PRINT AT 0,10-LEN STR$ s; I
NK 6;s
  59 LET t=t-.015: IF t<=0 THEN
GO SUB 800
  60 PRINT AT 21,6; INK 6; PAPER
 2;t$( TO t); PAPER 0;" "
  62 PRINT AT c,d; OVER 1; INK 2
;"C"
  63 IF ATTR (c+1,d)=4 THEN POKE
 35006,5: POKE 35025,28: RANDOMI
ZE USR 35000: PRINT AT c+1,d; IN
K 5; BRIGHT 1;"N": POKE 35025,29
: RANDOMIZE USR 35000: PRINT AT
c+1,d; INK 6;"F": LET c=4: RANDO
MIZE : LET d=(RND*10)+1: LET s=s
+25
  64 LET d=d+(d<=b AND ATTR (c,d
+1)<>6)-(d>=b)
  65 LET c=c-(c>=a AND ATTR (c-1
,d)<>6 AND ATTR (c-1,d)<>4)+(c<=
a AND ATTR (c+1,d)<>6 AND ATTR (
c+1,d)<>4)
  69 PRINT OVER 1;AT c,d; INK 5;
"C"
  80 IF a=4 AND b=26 AND g=0 THE
N LET j=j-1: LET g=1: PRINT AT 4
,28; INK 7;j$( TO j);" ": BEEP .
1,50: LET u=1
  85 IF a=19 AND b=3 AND u=1 THE
N LET s=s+275: POKE 35056,5: RAN
DOMIZE USR 35000: LET u=0: LET g
=0: IF j=0 THEN GO TO 200
  99 IF a=INT c AND b=INT d THEN
 GO TO 800
 100 GO TO 50
 200 LET s=s+INT (t*50)
 210 PRINT AT a,b;" ";AT c,d;" "
 215 PRINT AT 20,1; BRIGHT 1; FL
ASH 1;"           B  O  N  U  S
"
 220 POKE 35006,100: RANDOMIZE U
SR 35000
 240 LET a=19: LET b=3: LET c=4:
 LET d=26: LET h=h+1: LET j=3
 250 LET t=20-h: IF t<=10 THEN L
ET t=10
 260 PRINT OVER 1;AT c,d;"C"
 270 PRINT AT 4,28;j$( TO j)
 280 PRINT AT 20,1; FLASH 0;"
"
 290 GO TO 51
 800 PRINT AT a,b; OVER 1;"A";AT
c,d; OVER 1;"C"
 801 PRINT AT 21,27;" "
 810 FOR n=10 TO 2 STEP -2: BEEP
 .1,n: PAUSE 1: NEXT n
 815 PAUSE 7: BEEP .075,8: PAUSE
 1: PRINT AT a,b;"N": BEEP .075,
8
 820 PRINT AT a,b;" "
 831 LET m=m-1: IF m<=0 THEN GO
TO 900
 840 PRINT AT 21,28; INK 4;m$( T
O m);" "
 850 LET a=19: LET b=3: LET c=4:
 LET d=26: LET g=0: PRINT AT 4,2
8;j$( TO j)
 860 PRINT AT c,d; OVER 1;"C"
 890 GO TO 51
 899 REM Game over
 900 IF s>=hs THEN LET hs=s: PRI
NT AT 5,0; INK 7; PAPER 2;"NEW H
IGH SCORE !! ENTER INITIALS"
 901 IF s=hs THEN FOR n=-50 TO 5
0 STEP 5: BEEP .1,n: NEXT n
 902 IF s=hs THEN INPUT h$: IF L
EN h$>3 THEN GO TO 902
 903 PRINT AT 21,28;" "
 931 PRINT AT 21,27;" ": PRINT A
T 11,0; INK 6; PAPER 1; FLASH 1;
"           GAME OVER
"
 932 PRINT AT 15,0; INK 0; PAPER
 5;"       ANOTHER GAME         Y /
N "
 933 IF INKEY$="y" THEN RESTORE
9927: GO SUB 9900: GO SUB 9920:
GO TO 51
 934 IF INKEY$="n" THEN PRINT US
R 0
 940 GO TO 920
1000 GO SUB 9990: REM SOUND
1010 GO SUB 9900: REM VARIABLES
1020 GO SUB 9800: REM GRAPHICS
1030 GO SUB 9700: REM INFO
1040 GO SUB 9920: REM SCREEN
1050 GO TO 51    : REM THE GAME
9699 REM          Instructions
9700 BORDER 1: PAPER 1: INK 7: C
LS
9710 LET i$="  Welcome to Haunte
d House......You must travel aro
und the houseto collect the jars
 which are   under the chimney P
ot. When you collect a jar you m
ust take it  back to your van,th
en collect   another jar.
               The spooks you wi
ll find are..  C  Ghost
               E  Skeleton
               The ghost can be
disposed of  by laying a snare a
nd the       skeleton by collect
ing the      hammer and running
underneath."
9715 LET i$=i$+"
                           CONTR
OLS          (Q) Up         (A
) Down       (O) Left       (P
) Right      (Z) Lay a snar
e"
9717 PRINT "     H A U N T E D
H O U S E "
9718 PRINT "     = = = = = = = =
= = = = = "
9719 PRINT PAPER 2; INK 6; BRIGH
T 1;"  © 1983  A.J.Murgatroyd  G
6ROG "
9720 FOR n=1 TO LEN i$: BEEP .00
5,5: PRINT i$(n);: NEXT n
9725 POKE 35004,255: POKE 35006,
```

HAUNTED HOUSE CONTINUED

```
50: RANDOMIZE USR 35000
9730 PRINT #0; FLASH 1;"        PRE
SS ANY KEY TO BEGIN        "
9740 PAUSE 0
9750 POKE 35025,29: RANDOMIZE US
R 35000
9760 RETURN
9799 REM          U.D.G.'s
9803 FOR y=65368 TO 65479
9810 READ z: POKE y,z: NEXT y
9819 REM     Data for U.D.G.'s
9820 DATA 56,40,146,124,56,56,40
,108,129,255,129,255,129,255,129
,255
9830 DATA 62,127,73,73,127,127,8
5,85,127,34,65,65,65,65,65,62
9840 DATA 8,93,73,62,8,20,34,34,
247,247,247,0,0,0,0,0
9850 DATA 0,24,56,112,104,4,2,0,
51,51,51,51,51,51,51,51
9860 DATA 0,0,0,0,15,7,7,31,0,0,
0,0,255,254,254,254,39,71,127,12
7,127,255,40,16,254,254,254,254,
254,255,20,8
9870 DATA 129,195,129,195,129,19
5,129,126,0,73,42,0,99,0,42,73
9890 RETURN
9899 REM          Variables
9900 LET t=20: LET t$="HHHHHHHHH
HHHHHHHHHHHHHHHHHHHH"
9902 LET j=3: LET j$="DDD"
9903 LET a=19: LET b=3: LET c=4:
 LET d=26
9904 LET m$="AAA": LET m=3
9905 LET v=0: LET g=0
9907 LET h=0
9910 LET s=0
9918 RETURN
9919 REM          Screen
9920 BORDER 0: PAPER 0: INK 7: C
LS : FOR n=5 TO 17 STEP 2: PRINT
 AT n,0; INK 6;"FFFFFFFFFFFFFFFF
FFFFFFFFFFFFFFFF": NEXT n
9925 FOR n=1 TO 14: READ y,x: PR
INT AT y,x; INK 2;"B";AT y+1,x;
INK 2;"B";AT y-1,x; INK 2;"B": N
EXT n
9927 DATA 5,6,5,22,7,2,7,17,7,29
,9,15,11,5,11,24,13,3,13,17,15,1
3,15,30,17,7,18,7
9930 FOR n=1 TO 11: READ y,x: DR
AW INK 6;y,x: NEXT n
9932 DATA 0,144,127,31,1,0,127,-
31,0,-144,-254,0,0,144,127,31,12
6,-32,0,-142,-254,0
9933 PLOT 0,0
9934 PLOT 250,146: FOR n=1 TO 3:
READ x,y: DRAW INK
6;x,y: NEXT n
9935 DATA 0,8,-18,0,0,-4
9937 PLOT 246,154: FOR
n=1 TO 7:
 READ x,y: DRAW INK 6;x,y: NEXT
n
9939 DATA 0,3,2,0,-5,10,-4,0,-5,
-10,2,0,0,-3
9940 PRINT AT 18,1; INK 2;"IJ";A
T 19,1; INK 2;"KL"
9942 PRINT AT 12,27; INK 5;"G"
9945 PRINT AT 4,28;j$( TO j)
9947 PRINT AT 21,1; INK 7;"TIME
"; INK 6; PAPER 2;t$( TO t); PAP
ER 0;" "; INK 4;m$( TO m)
9949 PRINT AT 21,30;"  "
9950 PRINT #0; INK 7;"HAUNTED HO
USE  © A.J.MURGATROYD"
9952 PRINT AT 0,0; INK 4;"1 UP "
; INK 6;"00000";AT 0,21; INK 5;h
$; INK 7;" 00000"
9953 PRINT AT 3,0; OVER 1; INK 6
;"
  "
9954 PRINT AT 4,26; OVER 1; INK
2;"C"
9955 PRINT AT 0,30-LEN STR$ hs;
INK 7;hs
9960 PRINT AT 3,15; INK 6; PAPER
 0;"E"
9970 PRINT ; INK 6;AT 18,6;" ";A
T 18,8; INK 6;" "
9980 RETURN
9988 REM        Sound enhancer
9989 REM    ( Siren style sound )
9990 DEF FN a(n)=(CODE a$(n)-48
AND CODE a$(n)<58)+(CODE a$(n)-5
5 AND CODE a$(n)>64)
9991 LET a$="F31110D0260A3A485C1
F1F1F0EFEEE10ED794310FE2520F41C1
520E8FBC9"
9992 FOR j=1 TO LEN a$ STEP 2
9993 POKE 35000+j/2,16*FN a(j)+F
N a(j+1): NEXT j
9994 RETURN
9995 REM A B C D E F G H I J K
9996 REM A B C D E F G H I J K
9997 REM
9998 REM L M N
9999 REM L M N
```

Please enter the following score in your Arcade Arena Competition.

I scored .... on the following game:

BALLOONACY ☐

SUPER NIBBLERS ☐

HAUNTED HOUSE ☐

EPIDEMIC ☐

THE SCORE WAS WITNESSED BY: ....

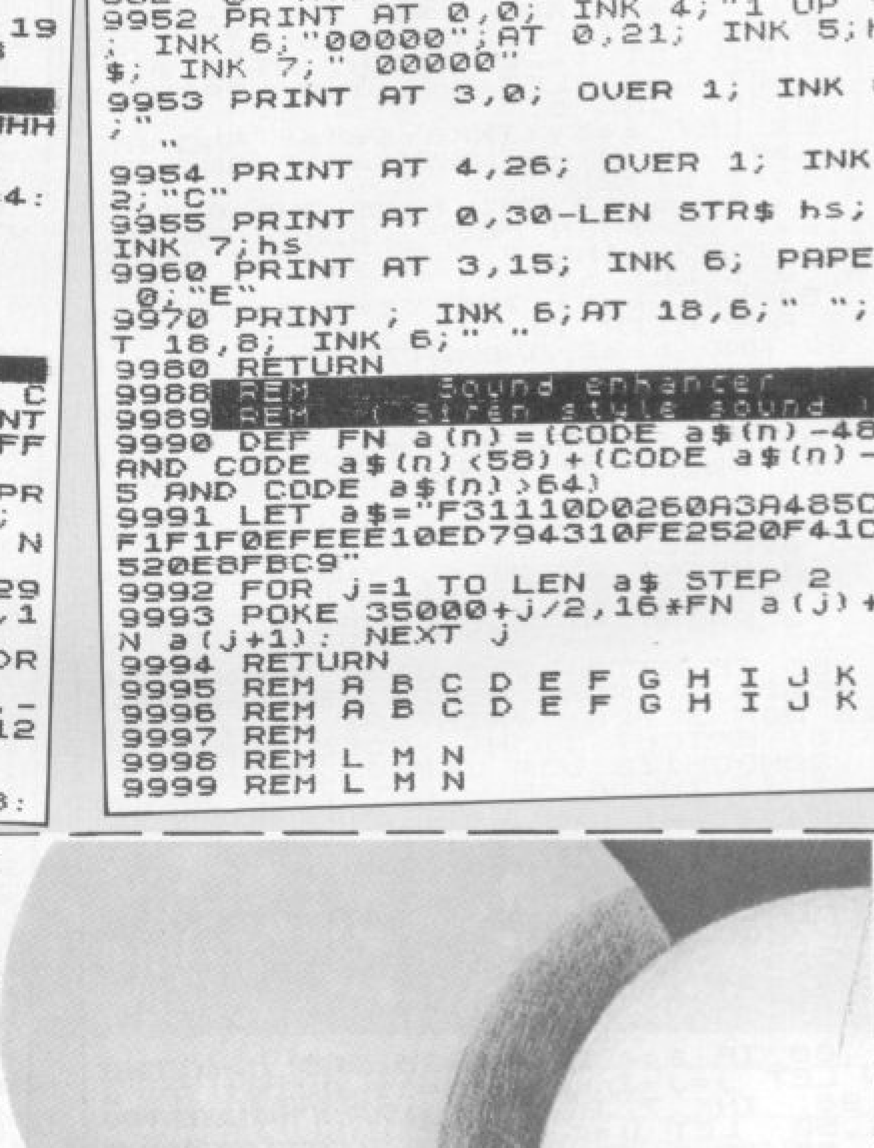
WITNESS' SIGNATURE: ....

MY NAME IS: ....

ADDRESS: ....

....

.... **TEL:** ....



THE SEVEN

PLUNDERING FOR A PROFIT

Welcome back to the Galaxy of the Seven Empires where space tribes strive, struggle and connive to make an honest mega-buck.

Some 3,400 of you took part in the first turn of our second Seventh Empire run and once again the galaxy is a hotbed of sneaky attacks, double dealing and back-stabbing.

Our top space commander for the first turn was D. Bell of Simonside Terrace, Heaton, Newcastle-upon-Tyne, who was the schemer behind many a daring act of piracy on the Gateway routes, on his way to 2,690.

The other top scorers in the first turn were:—

A. Conner of Woodmill Lane, Bitterne Park, Southampton with 2430;
P. Russell, West View Cottage, Mainstreet, Cotebach with 2138;
J. Briscoe, Upper West Drive, Ferring in Sussex with 1984;
D. Bisset, High Street, Laurencekirk, Scotland with 1939;
A. Makepeace, Thirlestane Crescent, Northampton with 1859;
C. Bergin, Austin Road, Hunstanton, Norfolk with 1783;
M. Fiddlay, Queens Road, Aberdeen with 1753;
M. Frary, Toftwood, Dareham with 1702;
N. Shawcross, Kearsley Close, Kirkdale, Liverpool with 1691.

We're currently looking out some software cassettes for Mr Bell. More on offer next month.

	As	Ba	Ca	Du	Er	Fa	Ga	He	Ix	Ji	Ko	Li	Mu	Nu	Op	Pu	Qa	Ri	So	Tu	Us	Va	Wi	Xu	Yu
Asol					500			111						250	250	500	1000		1000		250				500
Barov				500	250		166		500		1000			250	1000	111					1000		166	250	
Cazuv	500			1000			1000		1000		1000				1000	500		1000	333		1000	111	1000	1000	500
Dusup		500						1000	1000				500			1000	250			500			333		1000
Erak				1000		250	500	500		1000	500			333	1000	500		250			1000		250		
Fadis	500			1000	111			1000	1000				1000		1000	500			250			500			250
Gazor	500	500													1000	500		500		1000	1000	500			500
Hezod	250						250					1000		1000	166			250		250	333				1000
Ixip		1000		1000	500	1000								500		500		166			1000		1000		1000
Jinis		333			500			333	1000		1000		500			1000					500	250			
Kolol	250	1000	1000					1000								166		1000	1000					333	
Lizag	1000	1000	500			1000		333								1000	125	1000	333			1000			
Mupip	1000				166	1000		1000	500		500	1000		1000		250	500		1000	1000		1000	500		
Nuzet				500				500	1000	250	250					83	1000		250			333			1000
Opod				500	1000	1000		500				1000						250		250		500		1000	
Pulud					500	250	1000	1000	250	1000	1000	1000	500					1000		1000		1000	1000		500
Qavuv		1000	1000				1000		1000	250		333	1000			1000		500	250				500	333	
Rivev	250			1000		1000		500					1000	1000	1000		1000					1000	250		1000
Soner						1000		1000	250	1000	1000		500		333	250				1000		500			
Tubox	1000			500		111	500	1000					1000	250	66	500			500				1000		
Usugx				1000			1000		250	500						500	1000	1000							
Vasux			500	250		250			1000		333					1000								500	
Widan		111		250				1000	1000	333						250		250	1000		1000	125			
Xugod				1000			1000			1000		500				500	1000	1000							500
Yuses		1000	1000	1000		1000	333						1000			500						500		1000	

THE GATEWAY ROUTE TABLE

HIGH SPACE SURVIVAL RATE

You're certainly improving in sending in Seventh Empire orders. Very few fleets were lost in space on this first turn of the second run.

But just in case, check through your orders carefully to ensure that any stray fleets are picked up before the second turn.

All orders for that turn must be with us by **July 22nd.** First prize for the top scorer is three software cassettes for his or her microcomputer but remember a grand prize of a Colecovision TV games centre goes to the highest scorer over the first six turns.

This turn the scoring was spread out as follows: 500+ **157 players;** 400-499 **25 players;** 300-399 **23 players;** 200-299 **44 players;** 100-199 **55 players;** 0-99 **505 players;** Under 0 **1664 players.**

To work out where you came in this batch of scorers, study the galactic map on the opposite page and for Gateway Jumps the table above gives the Cargo profits in black on white and the Plunder profits in white on black.

This month the Imperial Ships should be moved by the following players:— **Dead,** R. Harris of Worthing; **Amethyst,** S. Reid of Edmonton; **Water,** R. Harding of Prestwich; **D'Taan's,** B. Dackombe of Hampstead; **Sun,** A. Capaldi of Tynemouth and **Bloodline** by D. Bell. No takers for the **Pirate Empire.**

The Trade Index is calculated by the computer monitoring the number of merchant fleets arriving at and leaving a star system.

Traders coming to the star system are the sellers, traders leaving the system are the buyers. Each star also has a Trade Value which comes into the equation. Hearts are Elixir Stars (worth 200 points), Diamonds are Gem Stars (worth 150 points), Asterisks are Energy Stars (worth 100 points); and circles are Gateway Stars (50).

The crucial equation bringing all these elements together is: Trade Index = Trade Value × Buyers/Sellers. So a system which has seen a mass exodus of traders tends to have the best Trade Index.

So if 50 Buyers leave a Gem Star and 30 Sellers arrive the Trade Index = 250 (250 = 150 × 50/30).

Spotting the best systems to trade with is one of the surest ways of making a killing at the Seventh Empire. If you can predict which system will have the highest Trade Index next turn we'll provide you with a cassette for your microcomputer. If more than five of you get the right answer we may have to draw the line at five prizes.

Send entries in to the Trading Competition, Computer & Video Games, Durrant House, Herbal Hill, London EC1R 5JB.

ANOTHER CHANCE TO ENTER

If the Seventh Empire appeals to you we still have a batch of rulebooks ready to send out. No guarantees I'm afraid but we'll put you ready should any of the 25,000 fleets currently on the map, drop out. Send in the form below.

Please include me in the Seventh Empire Competition.
I name my tribe:

. . . .

My name is: . . . .
Address . . . .

. . . .

Telephone . . . .

DON'T TURN THAT PAGE

If you're new to the Seventh Empire then don't turn over the page just yet.

One of the key elements in many of the empire's equations is the Trade Index of any given star. The brightly coloured Galactic Map opposite, shows two different figures under each star name.

The left-hand figures refer to the number of players' fleets visiting any particular star system, while the right-hand figure refers to the Trade Index.

TH EMPIRE

BATTLE REPORTS

Some 53 battles were fought out in the galaxy this month as tribes struggled to claim certain stars for their emperor.

Defenders came out on top again but there were some close run things — notably at Apel where Bloodline and Amethyst fleets stormed in against the Sun empire defenders.

In the most one-sided conflict, 315 defending Sun Empire fleets rounded on two lone attackers from the Dead Empire.

There were no positive battle bonuses though as all the attackers took trading losses into war with them.

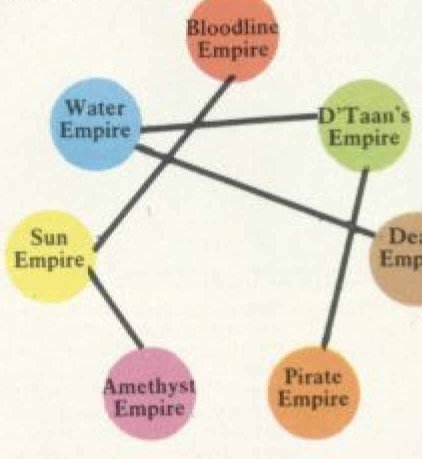
Notes of all the bonuses are included below:

Xokeg defenders suffered a loss of —; Rivev defenders won but only at the expense of a −1 loss; Rurus defenders, −1; Jadeg defenders, −1; Yuses defenders, −1; Hakub defenders, −2; Apel defenders, −1; Meden defenders, 12; Uleb defenders, −1.

For the first time in Seventh Empire history, the galaxy's diplomats have negotiated no-changes on the peace-treaty front. The Diplomatic Diagram seen below is the same as last issue which means that Sun Empire defenders could face another hard time in Apel.

Remember, where there's a rule the two empires are at war for this game turn and no rule means that the two empires are at peace.

The **Raid Penalty** is once again **1.** The Imperial ships this turn finished up on the following systems: Vepoz, Yanok, Rivev, Soner and Elar. Amethyst and Pirate empire ships were not placed on the map this time.



The Diplomatic Diagram

FOZUZ ○ 245 175	LARUB ♦ 219 86	YIBET ♦ 252 248	XOLIP ♥ 256 84	ITIL ♥ 214 102	FUNUS ♥ 223 157	LULIP ♦ 223 161	YANOK ♥ 254 51	XOKEG ♦ 203 175	ISOX ○ 199 190
VIZAX ○ 213 175	QIRUS ♥ 215 121	HAZAN ♦ 228 225	ABOB ○ 214 250	SONER * 344 77	VEPOZ ♥ 205 165	QATOT ○ 220 293	HEZOD * 350 56	ASOL * 353 59	SUXEK ♥ 216 103
BAROV * 247 50	WIDAN * 280 80	RURUS ○ 237 96	MUPIP * 286 46	NAXIG ○ 212 85	BETID ♦ 208 169	WAVAB ○ 214 186	RIVEV * 328 47	MEGUD ○ 215 208	NABOK ○ 213 190
DALIX ♥ 218 218	OLEX ♥ 248 105	TASAT ♥ 231 114	CAZUV * 254 53	GOVAX ♥ 229 97	DITUG ♦ 242 180	OKAP ♥ 278 64	TOXAZ ♦ 197 165	CIXAN ♦ 239 126	GOTEG ♥ 211 176
ERAK * 230 110	KOVEP ♦ 211 221	USUG * 333 43	PEBOB ♥ 282 55	JADEG ♦ 214 288	ENAK ○ 238 239	KEPAR ♥ 221 168	UGON ♦ 237 181	POROV ♦ 212 220	JINIS * 261 46
FADIS * 238 62	LOKIK ♥ 232 137	YUSES * 281 51	XAPUS ○ 200 170	IXIP * 317 72	FAGIL ♥ 245 80	LIZAG * 263 70	YODAZ ♦ 218 131	XUGOD * 326 81	IBED ♥ 235 109
VASUX * 282 58	QUXIN ○ 204 142	HIPEB ♦ 243 147	ASOR ○ 219 276	SIDAL ♥ 229 184	VIZET ♦ 253 120	QAVUV * 355 42	HAKUB ○ 224 130	APEL ♦ 233 436	SABAG ♥ 252 60
BUREP ♥ 219 85	WAGAP ♥ 210 169	ROLEK ♥ 258 101	MINEP ○ 215 135	NUVEX ♥ 269 49	BAZIX ○ 207 203	WUPIV ♥ 211 212	RORUL ♥ 257 85	MEDEN ♦ 214 183	NUZET * 261 82
DUSUP * 253 150	OPOD * 277 117	TUBOX * 256 70	CIGER ○ 207 195	GAZOR * 395 76	DABAG ♥ 244 93	OTAN ♦ 218 192	TUXUX ○ 192 326	CESER ♥ 222 105	GIRIX ♦ 201 318
ELAR ○ 204 225	KERUP ♦ 264 173	ULEB ♥ 215 100	PIRAD ♥ 225 108	JAXEL ○ 249 145	EDIB ♦ 204 242	KOLOL * 267 52	UKOP ○ 213 104	PULUD * 288 84	JUVAK ♦ 205 180

The Galactic Map

Orders in Block Caps please

Name: ....

Code No: .... Telephone No: ....

	AT	1st Movement phase ACTION	1st Movement phase STAR	2nd Movement phase ACTION	2nd Movement phase STAR
FLEET 1					
FLEET 2					
FLEET 3					
FLEET 4					
FLEET 5					
FLEET 6					
FLEET 7					

I wish to move the .... Empire's Imperial Ship from .... to ....

Please notify us separately of any change of address.

The Legend cont

Since before the mists of time, legends have been born out of conflict; not least the conflict of the mind over seemingly overwhelming odds.

Now the Imagine legend continues, with a new generation of games. Do you possess the determination to pit your mind against, and eventually conquer this new breed? Through your epic battles will you too become a legend?
... Imagine have cast down the gauntlet.



..the name of the game

Imagine games available from
W.H. SMITH
Boots
John Menzies
Dixons
Laskys
Photomarkets U.K.
and all other good Software Outlets.

Zzoom – As you climb into your gleaming G… Skimmer and slide behind the highly sophis… Flight computer, the feeling of excitement tu… dread. Another mission is about to begin. Co… on checking your high recoil machine guns… air, air-to-sea missiles you're going to need… defend yourself against the endless variety… weapons the enemy will unleash on you incl… terrifying Exetron missile. Zzoom has an ever… scenario presenting even the most hardened… player with the ultimate challenge. It incorpo… now famous Imagine style hi-res graphics in… innovative way to create the most realistic 3… seen in a computer arcade game. 100% ma… Zzoom requires a 48k Sinclair Spectrum.

Imagine Software, Masons

ntinues...



ng Gro... ophistic... ent turn... in. Con... guns an... eed the... iety of a... u includ... ever c... dened a... corpora... ics in a... tic 3D v... % mach... n.

Zip-Zap – You're the only droid left, your circuits are damaged, you can't switch off your motors, you must survive to warn the colonists, your energy is running low, you must get more fuel cells and stock up power by travelling in the teleportal. You'll encounter more aliens than you've ever seen before in this desperate attempt to survive, as you progress your droid through the various domains of ever increasingly intelligent and vicious attackers. Heart stopping tension and supersmooth animation and sound. 100% maching code. Zip-Zap requires a 48k Sinclair Spectrum.

Jumping Jack – poor old Jack has to jump up through eight moving layers to reach the top before he can recite the first two lines of his secret rhyme. On his way up sudden hazzards plague our hero, a snake, a dinosaur, a spider, a ghost and many many more. Its up to you to guide jack up to reveal the rest of his secret rhyme. Jumping Jack is an experience that will have you laughing with delight and crying with frustration, and with supersmooth hi-res graphics and sound effects adding to the fun it has to be the most addictive game since Arcadia. 100% machine code. For use on any Sinclair Spectrum.

Any of these games for just

£5.50 EACH

including first class post, packaging, VAT and an UNCONDITIONAL LIFETIME GUARANTEE.
If you have any difficulty in obtaining any Imagine Games ring Imagine Direct on **051-236 6849 to place your order.**

Dealership Enquiries contact: Colin Stokes: **051-236 0646**

ons Buildings, Exchange Street East, Liverpool, Merseyside L2 3PN.



BEATING THE DEADLINES!

BY KEITH CAMPBELL

The difficult part about writing this Adventure page is that I have to operate to a deadline. That is not a problem until a game begging a review "sticks" at an early stage, leaving much work to be done before my "copy" can be written.

So there I am, typing away on my micro. I'm tired, it is late — oh no — not another one of those *difficult* Adventures! Having just reviewed eight games for a recent supplement, I went to bed and forgot it.

Of course, that was not the end of it — I knew that sooner or later I would have to come back to it!

So when a bank-holiday weekend came along, I booted up the system, and resigned myself for a long haul.

STRANGER BEWARE . . .

The rest of the screen is blank. I press a key, the disc starts to whirl in its drive, and I am suddenly on a desert highway near an abandoned gasoline station some way from a small desert town.

Thus starts Xenos, the latest offering on disc from Tandy.

After wandering around the gas station I decided that for now it would have to be considered a red-herring apart from the crowbar, and moseyed into town.

Although comprising only six buildings, I found it surprisingly difficult to find my way around.

Losing my bearings, I strolled up a side alley only to lose my way in the desert, nearly dying of thirst, and really dying of poison in some flesh wounds caused by something very strange and nasty out there.

Reboot, and try again. This time I will not be beaten! Why is the gas station and town deserted? Is the jeep really a red-herring?

If so, then the Jack-o-Matic 333 is a very elaborate hoax. What does the old prospector out in the desert know about a "magnetic anomaly"?

Questions begin pouring through my mind, and I am away, oblivious to calls for meals, missing the TV program I had meant to watch. . . .



That is the other trouble with writing this page. Occasionally I come across an Adventure so intriguing, that I am unable to stop, driven on by a craving for the solution — to hell with the deadline! And Xenos is one of those few! When I have finished writing this I intend to blow up that safe if it takes me all night! (Wait a minute — could the dynamite be for another purpose?)

Xenos runs from disc only on TRS-80 Model 1/3 compatible machines. Requiring a rudimentary knowledge of the American language, if a command isn't recognised you will be very cleverly told what word might be missing.

For instance, if you type "UNLOCK DOOR" the line may be altered to read: "UNLOCK DOOR WITH what?", the "what" flashing for a while, eventually clearing to let you add further words. An unknown verb will lead to the insertion of a flashing VERB? at the start of your input.

The plot of Xenos is somewhat reminiscent of Ghost Town, in that everywhere is deserted. But similarity of setting and plot end there.

The score is announced in percentage of mission fulfilled. The first 50% is not too hard to achieve, but the going begins to get rough from there on.

Are there many red-herrings in the game, or will things all fall into place? Is Screaming Foul-Up responsible for the fact that I can put my hands in the aquarium and apparently leave them there, or am I possibly a strange being?

Xenos is big, but does not appear limitless. Not a long term project like Zork, but one that you will go mad about until finally you have unfolded the riddle of Purgatory City!

'X' ADVENTURE ON TAPE . . .

Occasionally I describe a particular Adventure as different. That is not a suitable description for Xanadu Adventure which requires a BBC Model B computer to run, and takes you into a world of underground caverns, inhabited by dwarfs and monsters.

These are dangerous creatures, and cannot be relied on to turn up in the same place in each game! Some of the situations are similar to those encountered in other games, but with a difference.

With some hard thinking the Adventurer will progress gradually towards his goal, the depositing of all treasures in the treasure store.

When this point is reached (says the blurb — for I haven't reached that point!) "something will happen".

On his travels the Adventurer will find objects not often encountered in Adventure games, the usefulness or otherwise

HOW TO DEFEAT MOST CUNNING

I received recently a letter from reader Alex Shipp, who has been beavering away writing an adventure for his Dragon-32.

Upon completing it he found one major problem: how to stop his little brother pressing the BREAK key, then listing the whole program?

"As you can imagine," he wrote, "some of the messages rather give the game away!" Even worse, what was to stop him getting a listing before he even started to run the game?

He assured me that his brother would be quite willing to adopt such underhand methods.

This is a problem that besets every Adventure writer. If, of course, Alex's brother is as little as he sounds, then

NEVER FEAR, HELP IS AT HAND!

Last month I reported that Richard Jones and Simon Clarke both had problems with Bedlam. Simon sent a tip to Richard, Richard was able to complete the game, and thus help Simon out with his problem.

Because different people can bend their minds to differing problems, through these pages — if we at *C&VG* don't know the answers, we can help you to help each other!

For those similarly stuck in Bedlam, printed upside-down you will find how to get past the guard dog!

Letters are still arriving with pleas of HELP! for *Pyramid of Doom*. To find out where to store the treasure, how to pass the rats, and how (most importantly!) to get past the iron statue — again you will find the answers printed upside down to protect the innocent!

Can anyone help Jonathan Evans of Blackburn find the treasure chest in the *Tandy Pyramid* maze? Please write if you know how to get to it! P. Coppins of Stanford-le-Hope is having trouble with tablets in *Golden Voyage*.

He currently wants to throw them simultaneously into the fountain. He is sure he is on the right track — unless *you* know different!

of which is not obvious. Has the pentangle some secret sinister purpose?

Will the soothing music of the dulcimer send a dwarf to sleep as well as the player?

The game has over 100 locations, and the scrolling replies, often four lines or more of text, are not only amusing, they appear quickly, and have nearly the verbosity of a disc-based game.

OK, it's an impressive game — but unique? What I've not yet mentioned is that this game has a two player option. If that is selected the game takes on a whole new dimension.

The players decide how many moves they will make each turn, and as the game proceeds, a blue message at the top of the screen indicates which player is in command.

If one player arrives in the same location as the other, the reply will include "There is another Adventurer here".

An object taken by one player cannot be taken by the other, except for purchases made in the shop.

The two players start off as rivals, and if a fight develops the loser's objects drop to the ground, available for plundering by the winner!

When playing as rivals it is recommended that only the player whose turn it is watches the screen.

But wait — there's more! By typing ALLY, an alliance is made, the top message on the screen now displays in white, and weapon power is aggregated against the monsters in a common struggle to obtain the treasures. Perhaps this is the best way to solve an Adventure in company — no arguing about whose suggestion is the next command to be entered!

And there is always someone else to blame if things go wrong!

Unless, of course, when the goal is in sight, one player decides to rat on the agreement, type BREAK ALLIANCE, and rush home with all the goodies!

I can only describe Xanadu as unique, at least at the time of writing! No doubt this will not remain the only one of its kind for very long!

Xanadu Adventure is a fascinating game that I can thoroughly recommend at a price of £7.75 from Hopesoft of Newbury.

MIND OVER MATTER . . .

I got it wrong again Dad! I know, and I despair! *Empire of the Overmind* players R. Gillman from Birmingham, and Steven Essery from Orpington have both told me I don't need to drop other objects to use the one of my choice.

They tactfully explain that although I might be carrying something, I am not necessarily HOLDING it. What I should do is to HOLD the object before trying to use it!

So I reloaded *Overmind*, and sure enough, found I was told what I was holding separately from what I was carrying! A fine point — one I have not come across before in an Adventure! I shall have to read the small more carefully next time!

I take back all I said! Another slip like this and I stand to have my licence to Go North revoked!

It all goes to show that even *C&VG*'s expert Adventurer is not infallable — there's hope for all of you yet!

Seriously, Keith Campbell is always interested in hearing from you the readers, even if it is a *criticism* . . .

...T EVEN THE ...G DRAGON

the easy answer is to give the BREAK key a good POKE where it will hurt most — i.e. disable it!

Unfortunately, that won't prevent the program from being listed before the game has been run, and it won't be long, by the sound of it, before Alex's little brother catches on!

However, I suspect that little brother is really only symbolic of all those low-down cunning and devious people whose main purpose in life is to find a way to prove that our excellent programs contain errors, have omitted the logic for an obscure command, or can otherwise be proved faulty. Let him look at the listing, and see whether, even with plain English staring him in the face he can untangle the program code to solve the game faster than trying the fair way! If he does, then he will have spoiled only his own enjoyment of the game.

Even after using a reset button which when pressed prevents a program from listing or running, it is still possible to look at the English text.

One has only to PRINT CHR$(PEEK(video ram)); successively from the command mode (see Adventure page in the first issue of *C&VG*).

Cheating can only be made difficult by encoding the text, and include a decoding routine in the program, but at the cost of response time and memory.

All this reminds me of my desperate attempts to solve Savage Island Part 1, by peeking RAM. (Yes — even I am not above that sort of thing!) I gained some vocabulary, and saw some extremely surprising things that seemed quite out of character with the game I thought I was playing.

ADVENTURENET HELPLINE

Pyramid of Doom:
The bit of stones with heiroglyphics merges with the stone altar to give a complete message "store treasures here". The oyster route is an alternative to the rats — feed the oyster with camel jerky. Throw the Ruby into the acid — go on — trust me!

Bedlam
To get past the guard dog, if you can find the window hook, you can get the blue pill from the cabinet. Put the pill in the hamburger meat from the fridge, and it will dissolve. Feed this to the dog and it will die. (Thanks to Simon Clarke of Harpenden).

MACHINE CODE

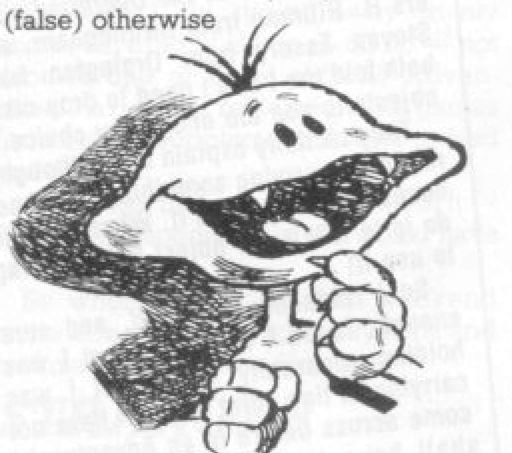
DEALING WITH LOGICAL VALUES

So far in this series we have been looking at programming in terms of arithmetic and interpreting the 0s and 1s in the computer as having numerical values.

However, there are instructions that allow us to treat the 0s and 1s as having *logical* or *Boolean* values, with 0 meaning false and 1 meaning true. The simplest logical operations are:

NOT: Invert a single bit, so 0 (false) becomes 1 (true), and vice versa.

AND: Takes two bits and returns 1 (true) if both the bits are 1 (true) and returns 0 (false) otherwise



INCLUSIVE OR (usually just OR): Takes two bits and returns 1 (true) if at least one of the bits is 1 (true) and returns 0 (false) if both the bits are 0 (false)

EXCLUSIVE OR (usually abbreviated EOR or XOR): Takes two bits and returns 1 (true) if exactly one of the bits is 1 (true) and returns 0 (false) otherwise.

NOT and AND reflect the use of these words in ordinary English. We have two types of OR because OR in ordinary English is ambiguous — sometimes meaning INCLUSIVE OR and sometimes meaning EXCLUSIVE OR.

POSSIBILITY OF CONFUSION . . .

There are symbolic forms for these operations, NOT being indicated by writing a bar above a symbol, so NOT P would be written as P, and two commonly used sets of symbols for AND, OR, XOR are , V, V and ., +, + , so we write P Q for P AND Q, PVQ for P OR Q, PVQ for P XOR Q, or P.Q for P AND Q, P+Q for P OR Q, P + Q for P XOR Q.

It is best to use the first set of symbols. With the second set there is a possibility of confusion with the arithmetic symbols for multiplication and addition. The second set is more often used in electronics where this confusion is less likely.

Logical operations can be combined to build up expressions, for example (P Q) meaning NOT and (P AND Q) or (P Q) (Q R) meaning (P AND Q) OR (Q AND R).

The branch of mathematical logic called *Boolean Algebra* deals with methods of evaluating and simplifying expressions like these.

The 6502, 6809 and Z80 microprocessors all have instructions for AND, INCLUSIVE OR and EXCLUSIVE OR, which all work in a similar way.

The 6502 opcode mnemonics are AND, ORA, and EOR, and can be used with immediate, absolute, zero page, indirect X, indirect Y, zero page X, absolute X, and absolute Y addressing modes.

The 6809 opcode mnemonics are ANDA, ANDB, ORA, ORB, EORA, EORB, the A or B indicating the accumulator the instruction operates on.

Like most 6809 instructions, these opcodes can be used with all meaningful addressing modes.

The Z80 opcode mnemonics are AND, OR, and XOR, and these can be used with 8-bit immediate data, a register — A,B,C,D,E,H, or L, or an indirect memory reference — (HL), (IX + displacement), (IY + displacement).

The machine code instructions work on bytes, performing the logical operation simultaneously on the eight pairs of corresponding bits in the accumulator and the operand, and leaving the result in the accumulator.

For example, if we have:

```
6502
LDA   %00110011
AND   %01010101
6809
LDA   %00110011
ANDA  %01010101
Z80
LD A,00110011B
AND 01010101B
```

In 6502 and 6809 assembly language a binary number is indicated by writing a % sign in front of it, and in Z80 assembly language by writing a B after the number.

The result will be to leave 00010001 binary in the accumulator. Similarly, using OR instead of AND would leave 01110111 binary in the accumulator, and using EXCLUSIVE OR would leave 01100110 in the accumulator.

These logical instructions are frequently used when we want to work with some of the bits in a byte and ignore others or leave them unchanged.

For example, suppose we are working with ASCII codes for letters of the alphabet and it does not matter whether we have upper case or lower case letters.

The ASCII codes for upper case letters are the binary numbers from 01000001 to 01011010 (65 to 90 decimal) and the codes for lower case letters are the binary numbers from 0110001 to 01011010 (97 to 122 decimal).

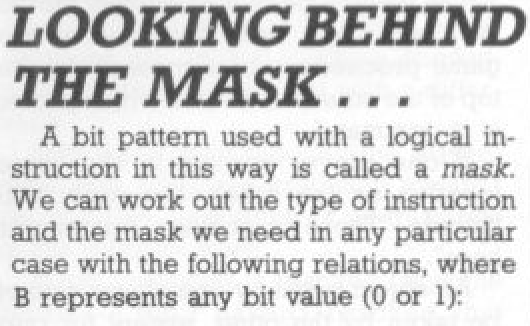
The difference between the code for an upper case letter and the code for the corresponding lower case letter is that the upper case letter has 0 in bit 5 while the lower case letter has 1 in bit 5.

We can use the logical instructions to affect bit 5 only and leave the other seven bits unchanged.

If we start with the ASCII code for a letter, AND with 11011111 will always leave an upper case letter, OR with 00100000 will always leave a lower case letter, and XOR with 00100000 will change an upper case letter to a lower case letter and vice-versa.

LOOKING BEHIND THE MASK . . .

A bit pattern used with a logical instruction in this way is called a *mask*. We can work out the type of instruction and the mask we need in any particular case with the following relations, where B represents any bit value (0 or 1):



B 1 = B
B 0 = 0

B 1 = 1
B 0 = B

B 1 = B
B 0 = B

BY TED BALL

MACHINE CODE

In general, we use AND with a mask to set some bits to 0 while leaving others unchanged, OR with a mask to set some bits to 1 while leaving others unchanged, and XOR with a mask to complement some bits while leaving others unchanged.

AN ADDITIONAL INSTRUCTION

The 6502 has one other instruction related to these logical instructions — BIT, which can be used with zero page and absolute addressing modes.

BIT only effects the flags, bits 7 and 6 of the memory location specified in the operand going into the sign and overflow flags respectively, and the zero flag being set according to the result of an AND operation between the accumulator and the memory location (this AND does not affect the accumulator, only the zero flag).

Related instructions on the Z80 are CPL, and the BIT, SET, RES groups.

CPL complements the contents of the accumulator, changing 0s to 1s and 1s to 0s.

BIT, SET and RES are used in the form BIT b, register; BIT b, (HL); BIT b, (IX+d); BIT b, (IY+d); and similarly for SET and RES, where b is the bit number, from 0 to 7 that the instruction works on.

BIT puts the complement of the specified bit into the Z flag, setting the Z flag so it will reflect the value of the bit.

SET sets the specified bit to 1, and RES resets the specified bit to 0.



If you have any problems relating to Ted Ball's Machine Code articles, questions about machine code programming or assembly language, then please don't hesitate to drop us a line and we'll pass on your questions to our expert.

Remember, the address to write to is Machine Code, c/o Computer and Video Games, Durrant House, 8 Herbal Hill, London EC1R 5JB.

In the meantime if there is any aspect of machine code programming you feel needs more attention why not tell us.

In the 6809, related instructions are COMA, COMB, COM, ANDCC, ORCC, CWAI.

COMA and COMB complement the A and B accumulators respectively. COM can be used with direct, extended and indirect/indexed addressing modes, and complements the contents of the memory location specified by the operand.

ANDCC, ORCC and CWAI can be used with immediate addressing only. ANDCC ANDs the operand with the Condition Code register, leaving the result in the Condition Code register, ORCC ORs the operand with the CC register leaving the result in CC, CWAI ANDs the operand with the CC register, leaving the result in CC, and stops and waits for an interrupt.

FLAGS WITH CLEAR VALUES

ANDCC and ORCC are used to put specific values into the flags.

For example, the Carry flag is bit 0 of the Condition Code register.

So to set the carry to 1 we use the instruction ORCC #%00000001, and to clear the carry to 0 we use the instruction ANDCC #%11111110.

The 6809 assembly language contains the mnemonics CLC (Clear Carry), SEC, (Set Carry), CLI (Clear Interrupt Mask), SEI (Set Interrupt Mask), CLV (Clear Overflow), SEV (Set Overflow).

These are included to make 6809 source code compatible with 6800 source code.

The instructions are assembled into the machine code for the corresponding ANDCC or ORCC indstructions.

TRUTH TABLES

OR

P Q	P Q
0 0	0
0 1	1
1 0	1
1 1	1

NOT

P	P
0	1
1	0

AND

P Q	P Q
0 0	0
0 1	0
1 0	0
1 1	1

XOR

P Q	P Q
0 0	0
0 1	1
1 0	1
1 1	0



CONTINUED NEXT MONTH

LOTHLORIEN

THE WARMASTERS

BATTLE YOUR WAY THROUGH TIME WITH WARGAMES FROM ANCIENT GREECE TO THE 21ST CENTURY



BC

470 **TYRANT OF ATHENS**
Adventure Wargame
ZX81 16K: Spectrum 16K
Dragon 32: Tandy Colour 32K

431 **PELOPONNESIAN WAR**
Diplomacy and strategic wargame
ZX81 16K

30 **ROMAN EMPIRE**
Strategic wargame with 3 levels of play
ZX81 16K : Spectrum 16K
Dragon 32 : Tandy Color 32K
Atari 400/800 48K
BBC Model B

AD

1150 **SAMURAI WARRIOR**
Adventure game in medieval Japan
ZX81 16K : Spectrum 16K
Dragon 32

1201 **WARLORD**
Adventure wargame set in medieval Japan. 3 levels of play
ZX81 16K : Spectrum 48K
Dragon 32: Tandy Color 32K
(Coming soon for ATARI and ORIC 1 48K)

1800 **PRIVATEER**
Real time graphics game to sink French warships
Combined cassette contains both ZX81 16K and Spectrum 48K
for only £4.50

1861 **JOHNNY REB**
All graphics wargame for **1 or 2 players,** manoeuvring troops on a battlefield
Spectrum 48K

1944 **PARAS**
All graphics wargame to destroy enemy bridge. 2 battlefields, 10 levels of play.
BBC Model B

1995 **REDWEED**
All graphics wargame in which you must prevent the Martians and Redweed reaching London.
Spectrum 48K

2000 **BATTLEZONE 2000**
All graphics tactical wargame to destroy the supertank before it escapes from the map. 10 levels of play.
BBC Model B

Programmers — help fill the gaps with your wargames

PRICES

ZX81 16K	£4.50	BBC-B	£6.95
SPECTRUM	£5.50	DRAGON	£6.95
ATARI	£12.50	TANDY	£7.95

AVAILABLE FROM BETTER SOFTWARE SHOPS OR DIRECT BY MAIL ORDER. ACCESS NUMBER, CHEQUES OR POSTAL ORDERS PLEASE PAYABLE TO

M. C. LOTHLORIEN
DEPT. CV9. 4, GRANBY ROAD, CHEADLE HULME, CHESHIRE SK8 6LS



THE WIZARD'S WARRIORS: A fast moving game that matches developments in your skill as a player by becoming increasingly more devious. By offering to you the full range of options you can choose how to control your warrior through the maze. A full implementation of this program enables such features as a continuous series of sound effects, arcade quality graphics, double-point scoring, and--for the very artful --bonus lives. — Spectrum £4.95

FORTH: A full implementation. Ideal for writing fast moving arcade type games. Allows the full colour and sound facilities of the Spectrum to be used. Future Microdrive enhancements will be made available. — Spectrum 14.95

ADVENTURE ONE: Features a save game routine as the game can take months to complete.
'a remarkably good version....well worth the money.' ...*Sinclair User*... — ZX81 £5.95

MAZEMAN: A fast action m/c game that reproduces the spirit of the original.
'..is very accurate and fast.' ...*Which Micro?*... — Spectrum £4.95, ZX81 £4.45

CHESS 1.4: Ten levels of play with this m/c program. Good graphic screen display.
'In a class of it's own.' ...*Your Computer*... — ZX81 £5.95

INVADERS: Very fast m/c action. Includes mystery ship and increasingly difficult screens. — ZX81 £4.45

7 MAES AFALLEN, BOW ST., DYFED, SY24 5BA
24hr Ansaphone 0970 828851

GRAPHICS

By Garry Marshall

The Texas Instruments TI-99/4a has some highly individual features for graphics.

The graphics commands that are provided by TI Basic, which is the version of Basic that is built into the computer, include CHAR, HCHAR, VCHAR and GCHAR.

These commands have the following purposes. CHAR permits a graphics character to be defined so that you can establish say, your own kind of Space Invader. With HCHAR and VCHAR characters can be placed on the screen, and GCHAR allows you to examine the screen.

Although commands and facilities comparable to these are available on other machines, very few provide them in such a consistent and easily used form. In particular, the commands for

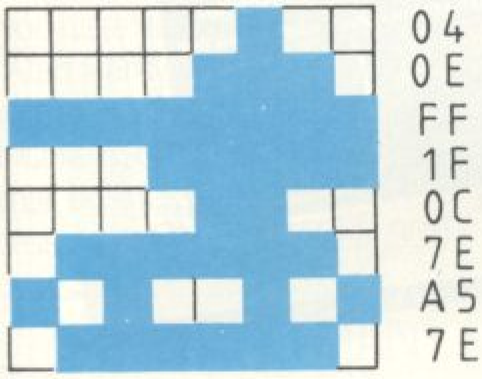


Fig 1.

placing characters on the screen and for examining the screen work in terms of the screen's row and column positions. Thus, they provide the same capability as POKE and PEEK do on other machines.

Now, suppose that we want to create a graphics character such as the one shown in Figure 1 to use in a game. This character can be defined and assigned the code 128 by the command:

CALL CHAR(128, "040EFF1FOC7EA57E")

Note that the characters are based on an 8×8 dot matrix, and that the string used to define the character is just the row-by-row hexadecimal representation of the character when each dot that is "on" is represented by a 1 and each one that is "off" is represented by a 0.

There is not too much scope for representing a tank (in case you didn't recognise it) in this way, and if you want to create a more realistic effort you can always use four characters to be plotted next to each other as shown in Figure 2. The four characters used here can be defined as characters by

CALL CHAR(129, "000103FF0707033F")
CALL CHAR(130, "C0E0F8FAFAF8E0FA")
CALL CHAR(131, "ED522D1F")
CALL CHAR(132, "76AB76F8")

Note that any trailing zeros need not be included in the string describing a character.

The small tank can be plotted at column 5 of row 7, for example, by:
CALL HCHAR(7,5,128)

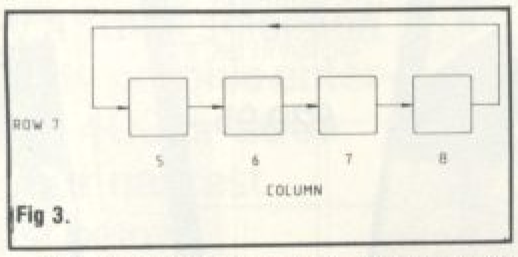


Fig 3.

The larger tank can be plotted with its top left part at column 8 of row 7 by:

CALL HCHAR(7,8,129)
CALL HCHAR(7,9,130)
CALL HCHAR(8,8,131)
CALL HCHAR(8,9,132)

With the computer's commands it is particularly easy to create movement. For instance, to make the small tank cycle through the positions shown in figure 3 the following program segment will suffice. It works by blanking out the tank (with a space character code 32) just before it is plotted in the next position.

```
100 DIM NEXT(8)
110 NEXT (5)=6
120 NEXT(6)=7
130 NEXT(7)=8
140 NEXT(8)=5
150 ROW=7
160 COLUMN=5
170 CALL HCHAR(ROW, COLUMN, 128)
180 CALL, HCHAR(ROW, COLUMN, 32)
190 COLUMN=NEXT(COLUMN)
200 GOTO 170
```

The movement can be slowed down by introducing a delay into the loop, say, between lines 170 and 180.

If the path to be followed by the tank already contains plotted characters that should be replaced as the tank passes, then lines 170 to 200 can be replaced with the following lines. The variable TEMP holds the code of the character to be replaced after the tank has passed.

```
170 CALL GCHAR(ROW, COLUMN, TEMP)
180 CALL HCHAR(ROW, COLUMN, 128)
190 CALL HCHAR(ROW, COLUMN, TEMP)
200 COLUMN=NEXT(COLUMN)
210 GOTO 170
```

Paths other than a straight line can be created by allowing the row position to change as well as the column position.

With SCREEN the colour of the screen can be established, while with COLOR the colours of the characters can be established independently.

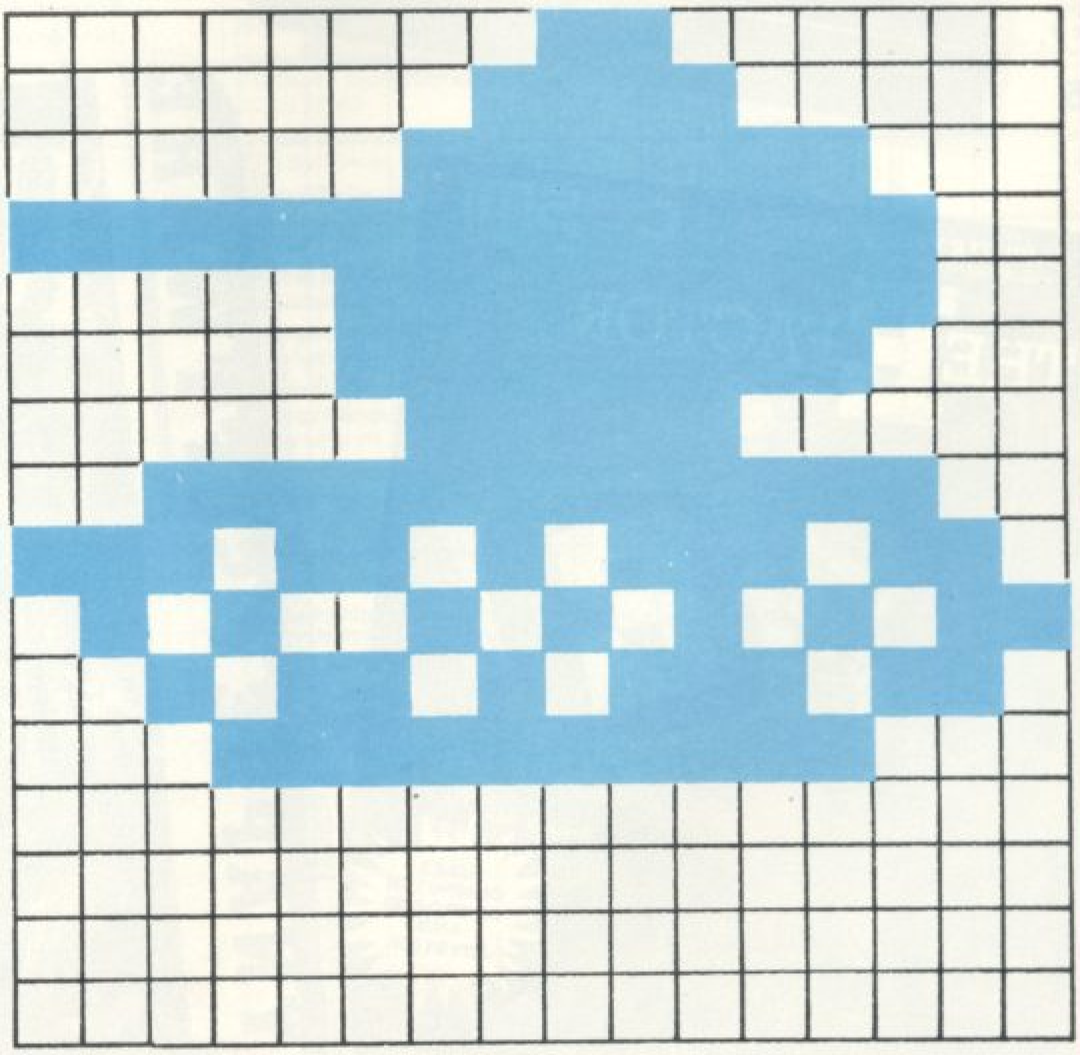


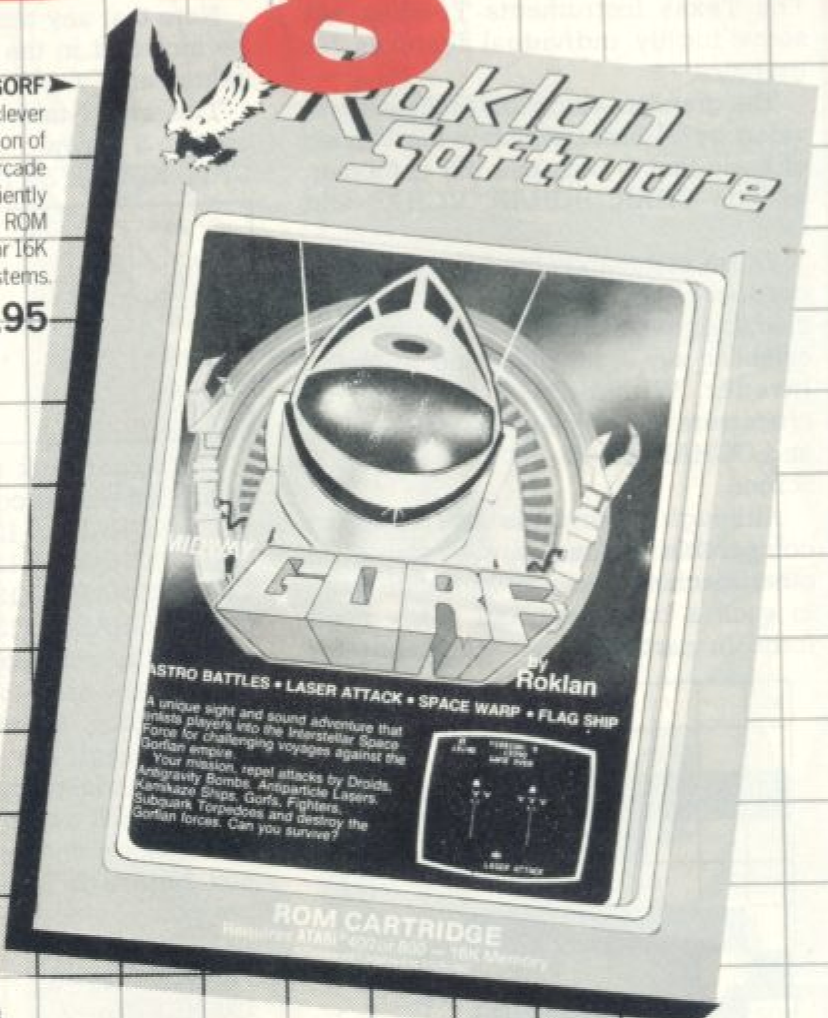
Fig 2.

For big At

GORF ➤
A very clever implementation of the popular arcade game. Conveniently packaged on ROM cartridge for 16K systems.

£29.95



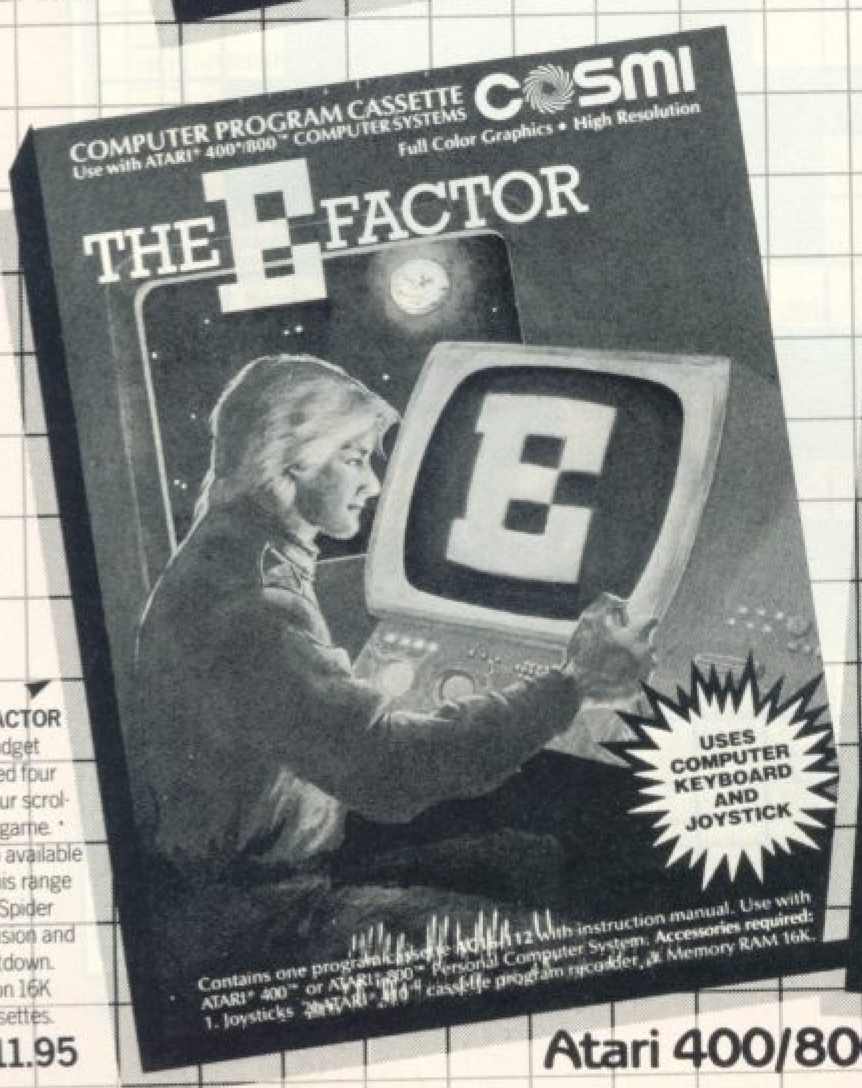


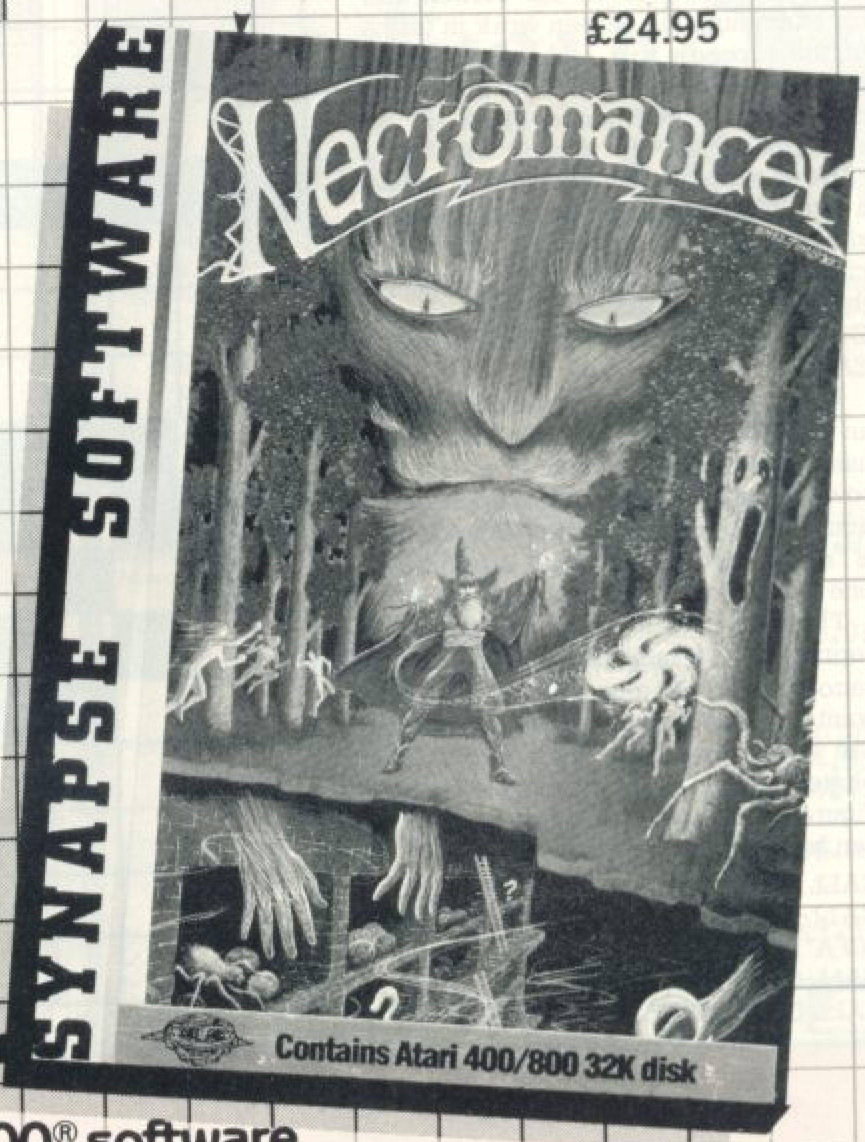
ZAXXON
If you've never seen 3D graphics in full colour, then you've never seen ZAXXON! See it soon on 16K cassette or 48K disk.

£27.95

NECROMANCER
A uniquely different concept in arcade style entertainment. This game defies description! Available on cassette or disk for 32K systems.

£24.95





E-FACTOR
A budget priced four colour scrolling game. Also available in this range are Spider Invasion and Meltdown. All on 16K cassettes.

£11.95

Atari 400/800® software

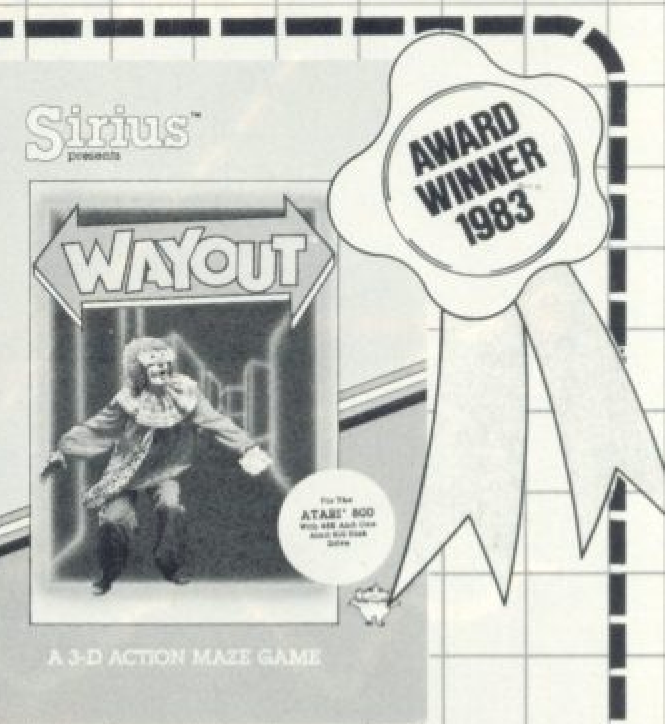
tari softies

Atari Home Computer systems are renowned for their superb graphic capabilities.

The software shown is only a small selection from the vast range of high quality graphic entertainment available for your Atari 400 or 800.

To find out more contact your nearest CentreSoft stockist from the list below.

- CentreSoft supply new Atari compatible titles to all of their retailers within days of launch date.
- You can buy with confidence from any CentreSoft retailer with our guarantee of replacement—free of charge—on any faulty media.
- If you have yet to buy your Home computer system then you will find Atari Hardware at the outlets shown below. Why not call in for a quote and a 'hands on' test run?
- All CentreSoft stockists have either stock or 24 hour fast access to small business packages, including TEXT WIZARD for word processing or FILE MANAGER 800+ for data base management.



SPECIAL PRICE CLASSIC

WAY OUT

Atari Classic. Voted best American computer graphics of 1983. A fantastic maze game—with a difference! Available on 48K disk. **£28.95**

ALL THESE AND MANY MORE AVAILABLE AT:

ENGLAND

AVON

Brensall Computers
24 Park Row, Bristol. (0272) 294188

Radford Hi-Fi Ltd
52 Gloucester Road, Bristol. (0272) 428247

EAST ANGLIA

Brainwave
24 Crown Street, Ipswich, Suffolk. (0473) 50965

Thetford C B & Micros
21 Guild Hall Street, Thetford, Norfolk. (0842) 61645

LONDON

Godfreys Computer Centre
28-32 East Walk, Basildon, Essex. (0268) 289379

Trionic
144 Station Road, Harrow. (01) 861 0036

Vision Store
3 Eden Walk, Kingston-Upon-Thames, Surrey. (01) 546 8974

Lion House
227 Tottenham Court Road, London W1. (01) 637 3024

Galaxy Video
60 High Street, Maidstone, Kent. (0622) 679265

Video City
45-47 Fishers Green Road, Stevenage, Herts. (0438) 53808

MIDLANDS

Computer Plus
2 Church Lane, Banbury, Oxon. (0295) 55890

Calisto Computers
119 John Bright Street, Birmingham. (021) 632 6458

Home Entertainment Center
212-213 Broad Street, Birmingham. (021) 643 9100

Gordon Harwood
69-71 High Street, Alfreton, Derbyshire. (0773) 832078

Mays Hi-Fi
57 Churchgate, Leicester. (0533) 22212

Foxs Computer Centre
38-40 Upper Parliament Street, Nottingham. (0602) 410926

NORTH EASTERN

The Computer Shop
Unit 25, Handyside Arcade, Percy Street, Newcastle-Upon-Tyne. (0632) 616260

York Computer Centre
7 Stonegate Arcade, York. (0904) 641862

NORTH WESTERN

Home Computers
234 Church Street, Blackpool. (0253) 22340

Chester Software Centre
49-51 Book Street, Chester. (0244) 310015

Gemini Electronics
50 Newton Street, Piccadilly, Manchester. (061) 236 3083

Channel 8 Software
51 Fishergate, Preston. (0772) 53057

Wildings Computer Centre
111 Bridge Street, Warrington, Cheshire. (0925) 38290

Wildings Computer Centre
11 Mesnes Street, Wigan. (0942) 44382

SOUTHERN

Gamer
24 Gloucester Road, Brighton. (0273) 698424

Efficient Chips
40 The Market Place, Chippenham, Wiltshire. (0249) 654321

G B Microland
7 Queens Parade, London Road, Waterlooville, Portsmouth. (07014) 59911

Microchips
27 Bedford Place, Southampton, Hants. (0703) 38899

Microchips
46-48 St Georges Street, Winchester, Hants. (0962) 68085

SCOTLAND

The Silicon Centre
6-7 Antigua Street, Edinburgh. (031) 557 4546

Livingstone Computer Centre
17 The Mall, Craigshill Shopping Centre, Livingstone. (0506) 36978

WALES

Hi-Fi Western Ltd
48 Cambrian Road, Newport, Gwent. (0633) 62790

Clywd Personal Computers
Unit 19, Daniel Owen Precinct, Mold. (0352) 56842

EIRE

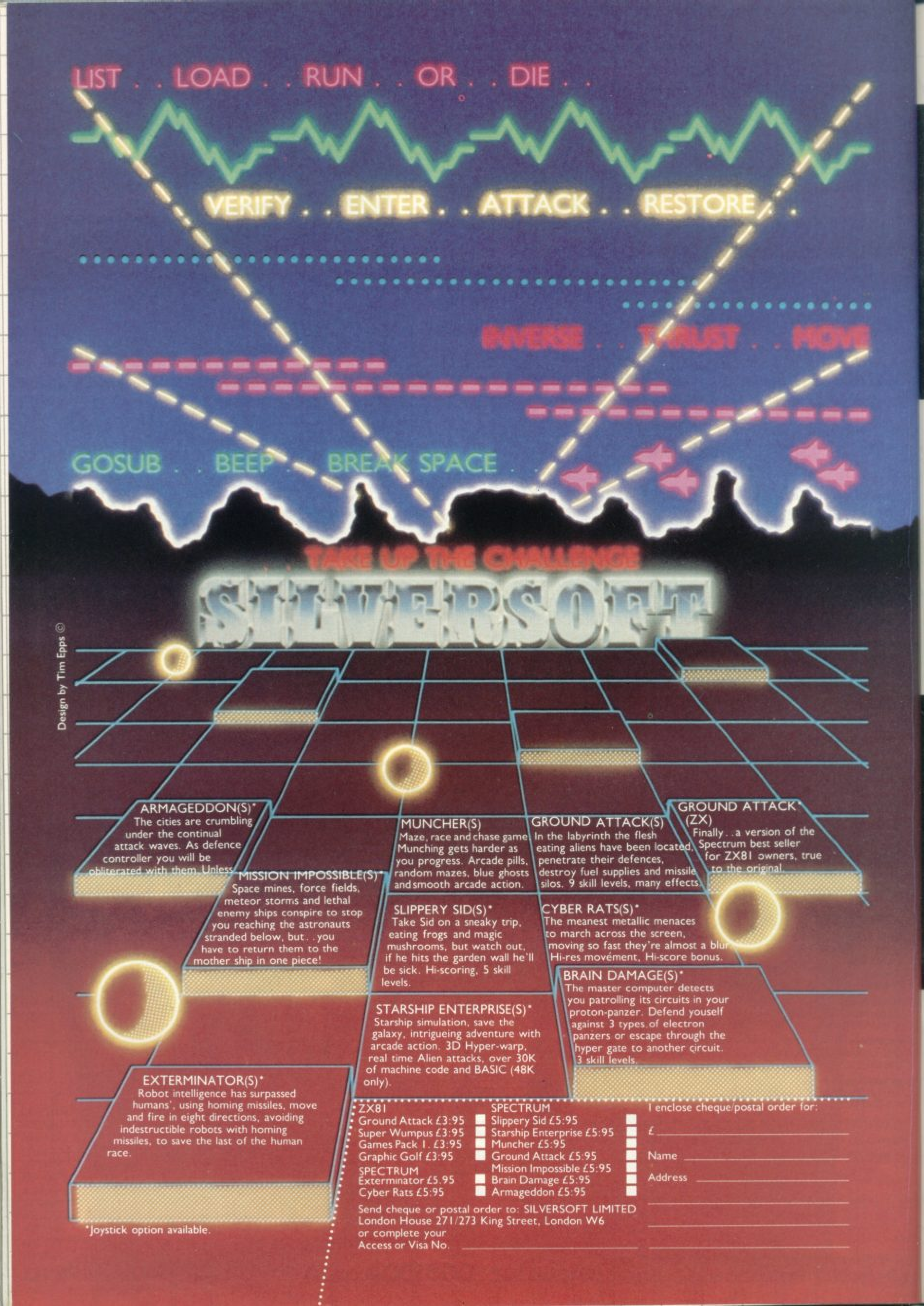
Peats Computers
25 Parnell Street, Dublin 1. (0001) 749972

Dealers! — for information on how to become a CentreSoft stockist: Write to 26, Great Cornbow, Halesowen, West Midlands B63 3AE or telephone 021-550 8263.

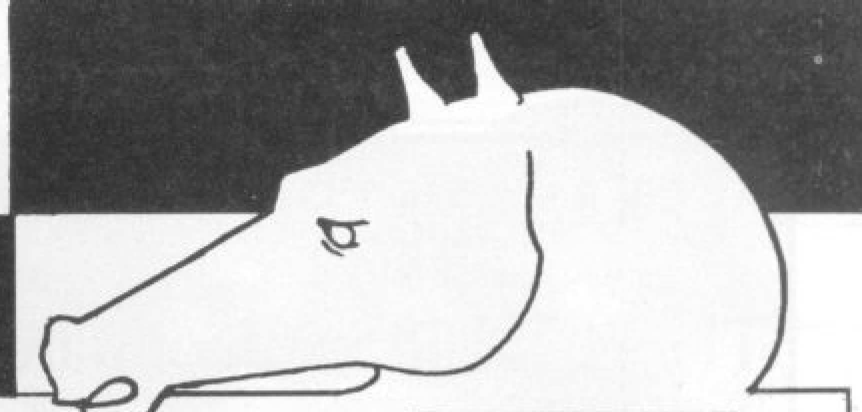
CentreSoft

Always top of the softs.

CentreSoft is an independent distributor of Atari compatible software.


LIST . . LOAD . . RUN . . OR . . DIE . .
VERIFY . . ENTER . . ATTACK . . RESTORE . .
INVERSE . . THRUST . . MOVE
GOSUB . . BEEP . . BREAK SPACE . .
TAKE UP THE CHALLENGE
SILVERSOFT
Design by Tim Epps ©
ARMAGEDDON(S)*
The cities are crumbling under the continual attack waves. As defence controller you will be obliterated with them. Unless
MISSION IMPOSSIBLE(S)*
Space mines, force fields, meteor storms and lethal enemy ships conspire to stop you reaching the astronauts stranded below, but. .you have to return them to the mother ship in one piece!
MUNCHER(S)
Maze, race and chase game. Munching gets harder as you progress. Arcade pills, random mazes, blue ghosts and smooth arcade action.
GROUND ATTACK(S)
In the labyrinth the flesh eating aliens have been located, penetrate their defences, destroy fuel supplies and missile silos. 9 skill levels, many effects.
GROUND ATTACK* (ZX)
Finally. .a version of the Spectrum best seller for ZX81 owners, true to the original.
SLIPPERY SID(S)*
Take Sid on a sneaky trip, eating frogs and magic mushrooms, but watch out, if he hits the garden wall he'll be sick. Hi-scoring, 5 skill levels.
CYBER RATS(S)*
The meanest metallic menaces to march across the screen, moving so fast they're almost a blur. Hi-res movément, Hi-score bonus.
BRAIN DAMAGE(S)*
The master computer detects you patrolling its circuits in your proton-panzer. Defend youself against 3 types of electron panzers or escape through the hyper gate to another circuit. 3 skill levels.
STARSHIP ENTERPRISE(S)*
Starship simulation, save the galaxy, intrigueing adventure with arcade action. 3D Hyper-warp, real time Alien attacks, over 30K of machine code and BASIC (48K only).
EXTERMINATOR(S)*
Robot intelligence has surpassed humans', using homing missiles, move and fire in eight directions, avoiding indestructible robots with homing missiles, to save the last of the human race.
ZX81
Ground Attack £3:95
Super Wumpus £3:95
Games Pack 1. £3:95
Graphic Golf £3:95
SPECTRUM
Exterminator £5.95
Cyber Rats £5:95
SPECTRUM
Slippery Sid £5:95
Starship Enterprise £5:95
Muncher £5:95
Ground Attack £5:95
Mission Impossible £5:95
Brain Damage £5:95
Armageddon £5:95
I enclose cheque/postal order for:
£
Name
Address
Send cheque or postal order to: SILVERSOFT LIMITED London House 271/273 King Street, London W6 or complete your Access or Visa No.
*Joystick option available.

CHESS



The fourth World Computer Chess championship is due to be held at the annual meeting of the ACM (Association for Computing Machinery) in New York from October 22nd-25th this year.

It is difficult at this stage to see the reigning world champion, BELLE, failing to retain the championship it won three years ago at the last championship, at Linz in Austria.

BELLE's opening book of 350,000 positions and ability to evaluate up to 150,000 positions per second are both huge advantages over all its foreseeable rivals. On the other hand, Kaissa the winner in 1974 and Chess 4.6, winner in 1977, also seemed favourites to retain the championship three years later, but failed to do so. Will the title change hands again?

WARNING FOR BELLE

A good indicator for the world championship is the annual series of North American computer chess championships also sponsored by the ACM.

The "Chess" series of programs by David Slate and Larry Atkin dominated the early years of this tournament with 7 wins in the first 8 years (1970-1977). From 1978 onwards, however, BELLE has been the dominant program, with wins in 1978, 1980, 1981 and 1982, and second place in 1979 (behind Chess 4.9).

The only program apart from BELLE and the various versions of "Chess" ever to win the North American championship was Ribbit, back in 1974. The "Chess" series no longer appears to take part in tournament play, leaving BELLE in an apparently supreme position.

Nevertheless, the manner of its victory in the 1982 championship in Dallas sounds a slight warning note for BELLE.

DRAW DANGER

In the four-round tournament, the program won two games and drew two to finish in a four-way tie for first place with 3 out of 4.

BELLE gained first place on tie-breaking, a deserved result since it had played each of the three others concerned, drawing with Cray Blitz and beating Nuchess and Chaos.

The greatest danger to the strongest program in a short tournament is too many drawn games. In a four-round event, it may be impossible to recover from even one draw — such a small number of rounds would not be seriously considered for a human event at any remotely comparable level.

BELLE's victory over Nuchess in round 3 at Dallas was a remarkable one.

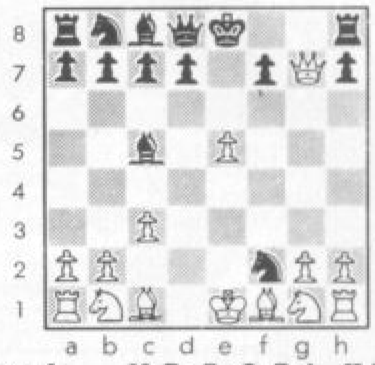
It is interesting to note that Nuchess provides a link with the past glories of the "Chess" series, since one of its co-designers is David Slate, co-designer of the original version of "Chess", over a decade before.

Here is the game between BELLE and Nuchess.

STRANGE PLAY

White BELLE v *Black* Nuchess
1. P-K4, P-K4; 2. P-QB3, N-KB3; 3. P-Q4, NxP; 4. PxP, B-B4; 5. Q-N4, NxBP; 6. QxNP

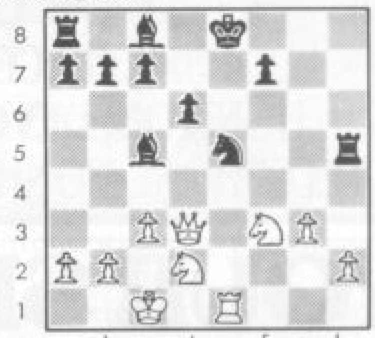
Extremely strange play and a most unusual position after 6 moves — already the game seems to be won for white!



If now 6. ....., NxR; 7. QxRch, K-K2; 8. B-N5ch wins so black continues 6. ...R-KB1; 7. B-KN5, QxB; 8. QxQ, NxR;

Now Black must try to extricate his knight.

9. N-B3, N-B3; 10. B-Q3, P-KR3, 11. QxP, R-KN1; 12. P-KN3, N-B7; 13. Q-R7, NxBch; 14. QxN, R-R1; 15. QN-Q2, R-R4; 16. O-O-O, NxP; 17. R-K1, P-Q3; and Black resigned.



After 18. NxN, PxN or 18.... RxN; 19. RxRch, PxR; White wins another piece by Q-N5ch.

GOODBYE TO ALL THIS . .

This is my final article in a series which began 21 months ago, in the first issue of *Computer and Video Games*, when I described Von Kempelen's Turk, an automatic chess player built over 200 years ago.

In the series, I have tried to combine articles about tournament play with ones on detailed analysis of end games such as King and Rook against King and Knight or on topics such as retrograde analysis or finding forced checkmates.

Computer chess is unusual in attracting two different kinds of followers, the tournament competitor and the academic researcher.

It is notable that even BELLE incorporates very few ideas which were not in use 15 or more years ago. Its success is very largely due to its large speed advantage over its rivals. The Artificial Intelligence researcher would argue that its lack of any deep understanding of the positional themes of the game will prevent it ever advancing much beyond its current level.

Others would claim that a further increase in speed of analysis is all that is required to improve performance and that this will apply indefinitely, as long as hardware speeds increase.

Thus, a World Champion program is attainable as soon as fast enough hardware becomes available without any additional "intelligence". Which side is right? Only time will tell.

BY MAX BRAMER

WELL, DO YOU KNOW SHICHO?

You can learn to play Go in minutes because the rules are very simple. But it can take many years to learn how to play the game well. The number and the novelty of the tactics that arise is quite startling.

One of the first discoveries that everyone makes is a zig-zag capturing sequence resembling a staircase, but nevertheless referred to in this part of the world as a ladder. The Japanese use the word shicho, (with the accent on the second syllable). Thus the saying *"No know shicho, no play Go!"*

Figure 1 shows why understanding ladders is so vital. White plays the cut at 1, separating the black stones marked. Unfortunately for white, this is a mistake! Black has two ways of putting the cutting white stone into *atari* (under immediate threat of capture).

If black plays at white 3, white would naturally play at black 2 obtaining three liberties for his group and thus escaping immediate danger.

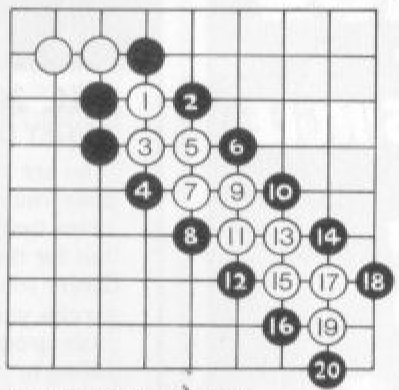
So black plays as shown and white extends but now his group has only two liberties. Black can thus put white into *atari* again.

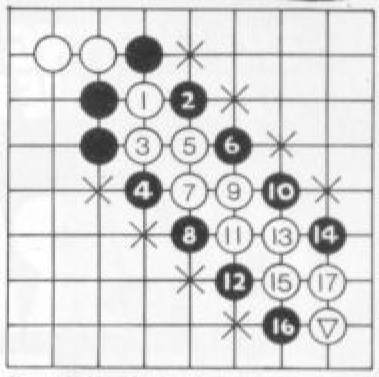
By choosing the correct sequence to create the zig-zag course, black drives white clear across the board. At the edge white finally runs out of liberties and thus inevitably loses his now quite large group.

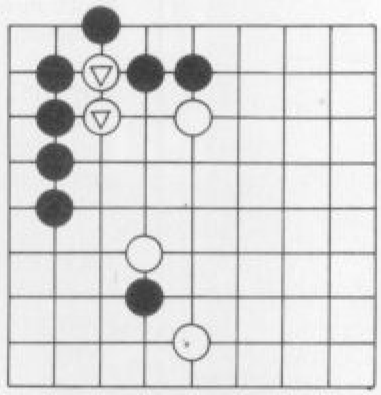
Of course as soon as white discovers that he is in a ladder, he should cut his losses. Having carried on to the bitter end, the only sensible move left for white is resignation.

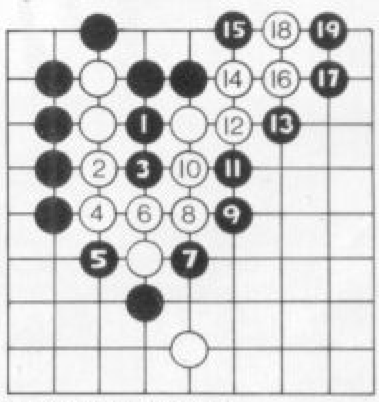
However, the game situation is rarely this simple. Not all ladders succeed. Figure 2 shows a similar situation but with the presence of a "ladder breaker".

The stone marked was in place before the ladder sequence. Thus after white 17, white's group has three liberties and black has no good move. Indeed the situation is now disastrous for black! He has numerous cutting points (marked with crosses) and can expect many of his stones to be captured and his entire position to crumble.


Figure 1: A successful ladder


Figure 2: A ladder breaker


Figure 3: Can white be laddered?


Figure 4: Ladders can bend

Black should have checked for white stones **anywhere** along the path of the ladder including where the black stones are played.

A common tactic is to play a stone that not only threatens to rescue one or more stones in a ladder, but also threatens some other dire consequence at the same time.

The idea is that the opponent can only answer one of the threats. For example, where the paths of two ladders intersect it is possible to play one stone breaking two ladders, thus ensuring the rescue of at least some stones.

In advanced play, on a full-sized board (19×19 grid), whole sequences of moves will be selected in anticipation of the effects of ladders.

It is very difficult to imagine that any computer program could play Go even moderately well without taking ladders into account. Indeed, the simple Go playing program described in previous articles can be severely thrashed by a human exponent of ladder tactics. Happily, however, it is relatively easy to extend such a program.

The most important amendment is to ensure that the correct *atari* is chosen. The program must try both ways of putting a group into *atari* and choose the way which, if the attacked group extends, minimises its number of liberties.

If this gives rise to exactly two liberties the program must look further ahead, resuming the sequence of moves until the group "escapes" or dies.

If the group eventually escapes and if the original stone making the *atari* has only two liberties itself, the *atari* must be rejected otherwise the program can go ahead. Where both options produce two liberties the lookahead must branch. If one branch ends in death for the laddered stones the *atari* is OK.

The method is fairly quick because only when an *atari* is selected for further consideration does the lookahead occur. Also the lookahead will examine very few moves, since the sequence in a ladder is usually forced.

The method has good results in complicated situations where the human player tends to "boggle"!

For instance, look at figure 3. Can black capture the marked stones? The computer program says yes — the sequence is shown in figure 4 where we discover that ladders can bend!

BY ALLAN SCARFF

IT'S HERE! CAMOUFLAGE

THE EXCITING NEW 'COMPUTER' GAME POP SINGLE

by

CHRIS SIEVEY

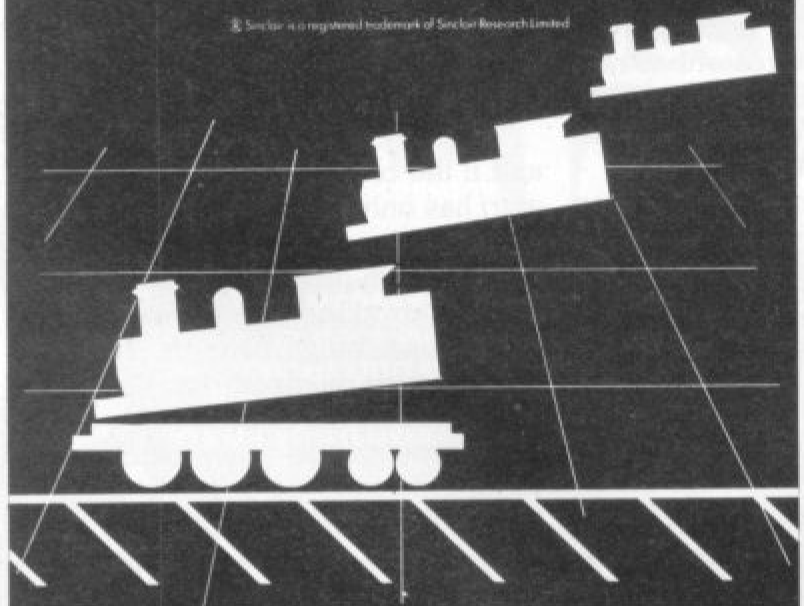
EMI 5398

LOAD THE 'B' SIDE INTO A sinclair ZX81 (16K)®
AND SEE THE LYRICS AND COMPUTER GRAPHICS ON YOUR TV SCREEN

THEN PLAY 'FLYING TRAIN' A NEW COMPUTER GAME ALSO ON THE 'B' SIDE

1K VERSION ALSO INCLUDED

® Sinclair is a registered trademark of Sinclair Research Limited



ALL FOR THE PRICE OF A SINGLE!

AVAILABLE AS A 7" DISC (EMI 5398) OR AS A CASSETTE TAPE SINGLE (TC EMI 5398)

AVAILABLE FROM YOUR LOCAL RECORD STORE

EMI

Mr. Chip

SOFTWARE

VIC 20 GAMES AND UTILITIES

BUGSY (Joystick Only) **£5.50**

You are in a minefield; collect all the yellow bombs before the time runs out by moving on the blue stepping stones. Gain extra time and score by collecting the purple boxes but watch out for the mines marked with red cross bones. Sounds easy? Every stone you step on disappears, as you move around the screen you leave an empty trail but not to worry, a loveable little green creature called BUGSY moves around randomly filling in the empty spaces but run into him and he turns nasty and you are dead. Clear the screen and another appears with more mines. How long can you stay alive? A very original, compulsive and challenging game.

JACKPOT

This is it, the ultimate fruit machine program for the Vic. You will be truly amazed by the graphics, colours, 9 different tunes and sound effects of this remarkable program. With nudge, hold and respin, can you win the Jackpot? 100% m/c . . **£5.50**

MINI-ROULETTE — PONTOON — HI-LOW

Three great games of chance for the VIC, try to beat the computer, hours of fun, full colour, sound effects and tunes **£5.50**

DATABASE — create your own files and records on tape **£7.50**

BANK MANAGER — Computerise your bank account . **£5.00**

SUPER BANK MANAGER — A full feature version any memory size, but needs 3K expansion **£7.50**

M/C SOFT — Machine code Monitor and Disassembler, any memory size **£7.50**

COMMODORE 64 GAMES AND UTILITIES

LUNAR RESCUE — Our own version of that popular arcade game **£7.50**

PONTOON — ROULETTE — ACE'S HIGH

More powerful versions, that make three great games of chance for the 64 . . . . **£7.50**

M/C SOFT 64 — Assembler and Disassembler, with decimal to hex converter, everything our program for the VIC will do and more **£7.50**

BANK MANAGER 64 — As our Super Bank Manager, but for the 64 . . . . **£7.50**

Full documentation with all utility programs.

Other software available for the VIC and Commodore 64, send for free brochure, including **RABBIT SOFTWARE** for the VIC, at our Special Offer of **£7.50** each or buy two or more at **£7.00**.

Send Cheques/POs to: **MR. CHIP SOFTWARE**

Dept CVG, 1 NEVILLE PLACE, LLANDUDNO, GWYNEDD, LL30 3BL. Tel: 0492 49747

WANTED: HOT SHOT SOFTWARE WRITERS, PHONE AND ASK US ABOUT OUR FAIR DEAL POLICY AND TOP ROYALTIES.

DEALER ENQUIRIES WELCOME


CBS COLECO VISION
IF YOU CAN FIND A
MORE ADVANCED VIDEO GAMES SYSTEM
IT WON'T BE ON THIS PLANET.
(So materialise at your local dealer for a try-out)


First there was the tennis video game, then just as you'd got that well and truly under control, along came all those Invaders from Space. Well, now there's CBS ColecoVision.
It's as different from the rest as Star Wars to Dr Who. Technologically, CBS ColecoVision is the most advanced, sophisticated video games computer system available.
It's the K size of the microchips in the cartridges that determine how challenging and exciting the games are to play; and the bigger the K size of the microchip the better the graphic definition, colour and sound.
You get faster speed of play. The greatest number of different screens or changing pictures to tax your abilities. Plus more variety of moving targets on screen.
CBS ColecoVision is a 32K ROM/16K RAM video games computer system. It's only on this system that the most powerful cartridges can be played.
It means that on CBS ColecoVision you can play 16K cartridges like Donkey Kong and Turbo. And even such advanced 24K cartridges as Zaxxon.
Whereas nearly all other video game computer systems, such as Atari® 2600 VCS™ and Mattel Intellivision™ are designed in such a way that the maximum cartridge power that can be played is 4K.
Just compare these figures:
Atari® 2600 VCS™
Max. cartridge power 4K
Mattel Intellivision™
Max. cartridge power 4K
CBS ColecoVision
Min. cartridge power 16K
But if you find all this jargon a lot to handle, play around with our system at your local dealer, and you'll get the full picture.
CBS COLECOVISION.
A NEW GENERATION.
CBS COLECOVISION VIDEO GAME SYSTEM
YOU CAN'T BEAT THE SYSTEM
Atari® VCS™ are the trademarks of Atari, Inc. Intellivision™ is the trade mark of Mattel, Inc. Donkey Kong™ is the trademark of Nintendo of America, Inc. © 1981 Nintendo of America Inc. Zaxxon™ is the trademark of Sega Enterprises, Inc. © 1981 Sega Enterprises, Inc. Smurf™ and Gargamel™ are the trade marks of © Peyo 1982. Turbo™ is the trademark of Sega Enterprises, Inc. © 1981 Sega Enterprises, Inc.

A bigger challenge.
As you might expect, our range of games is just as advanced as our console.

They're not only chosen from the most successful arcade games in the States, they play just like them as well. No-one else can claim that.

Every single game has up to 4 skill levels for 1 to 2 players plus multiple screens.

So even know-all game wizards are in for some hairy experiences. There are Donkey Kong, Zaxxon, Smurf, Cosmic Avenger,

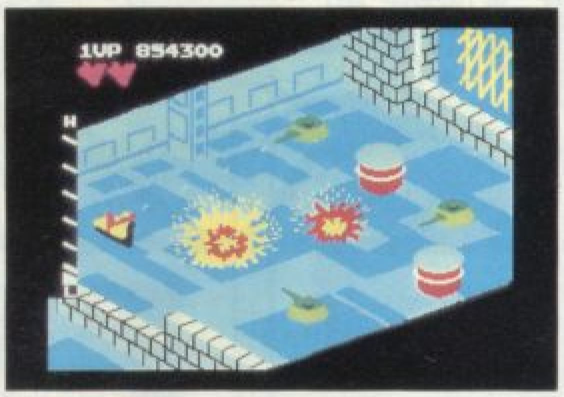


Expansion Module No. 2 with Turbo™ cartridge.

Carnival, Venture, Gorf, Wizard of Wor, Mousetrap and Ladybug.

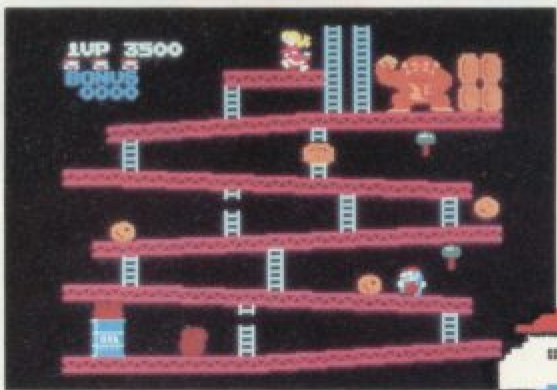
All demonly difficult. Definitely not for those with dodgy digits or weedy reactions.

More control at hand.
The CBS ColecoVision hand controls are also specially designed to complement the games. They give you full control over your game play with 8 direction joy stick, push button keyboard and two independent fire/action buttons.



Zaxxon™ Sega.

And more. The unique CBS ColecoVision Expansion Module Interface allows you to expand the use of your console and keep it right up to date with the latest developments.



Donkey Kong™ Nintendo.



Expansion Module No. 1 allows you to play the entire library of Atari® VCS™ cartridges.

Expansion Module No. 2 is a fully functional driving unit which includes steering wheel,



Smurf™
Gargamel's Castle. Peyo.



dashboard and accelerator pedal.

It comes with the Turbo™ video game cartridge for exciting high speed racing.

And Expansion Module No. 3 (soon to be launched) will turn your CBS ColecoVision console into an advanced home computer, so you can tackle anything from maths homework upwards.

Whichever way you look at it, CBS ColecoVision is simply the most advanced video games computer system you can lay your hands on.

On this planet, certainly.

So go and try one out at your nearest video games dealer.

IN VIDEO GAME COMPUTER SYSTEMS.



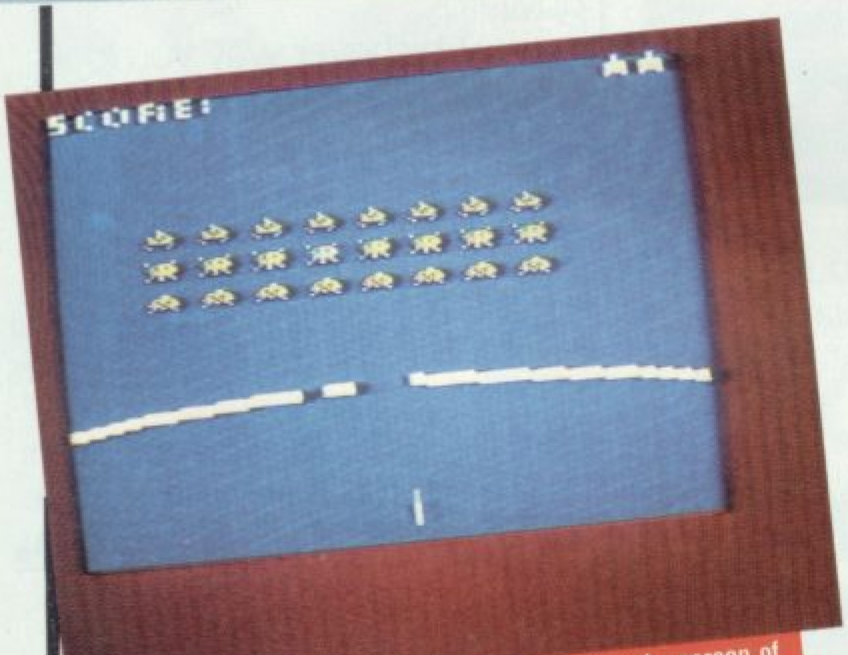




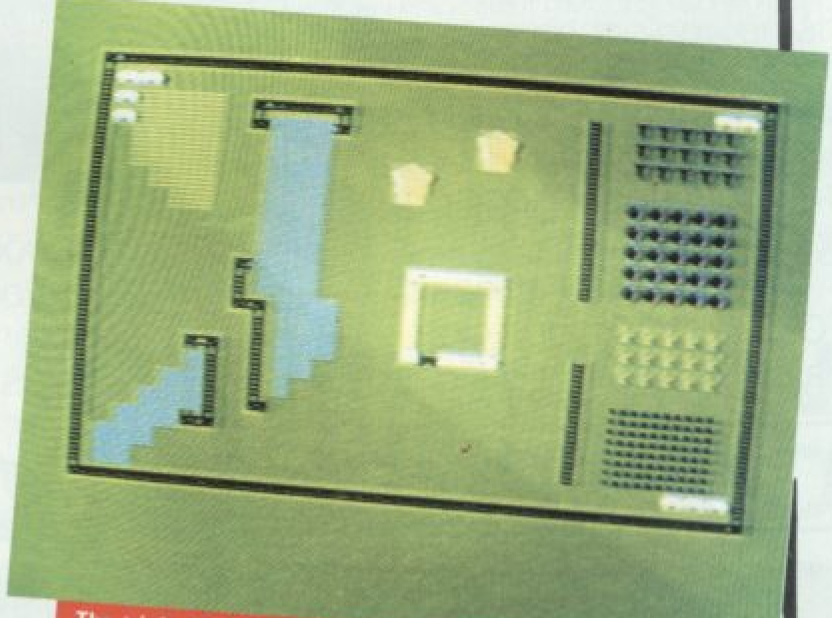
Psion's new Scrabble program (left) can test human opponents. (Page 107)

Micropower's version of Donkey kong (right) for the BBC micro is a real killer! (Page 108)





Gorf, that old arcade favourite now comes to the screen of your VIC-20. Our verdict can be found on page 109.

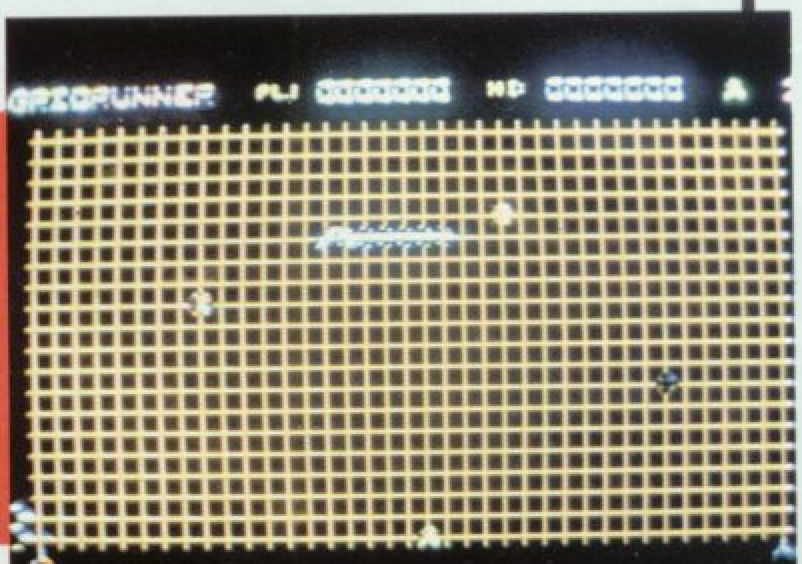


The trials of a sheepdog feature on Virgin's new tape. Our review on page 106.



Down the mine with Bounty Bob. Calisto's challenge to the active ape. See page 108.

Gridrunner takes up a theme from the movie Tron and expands it into a challenging new game. (Page 107)



GEM SOFTWARE

for LYNX, DRAGON, SPECTRUM & ZX81 Software

MONSTER MINE by W.E. MacGowan .... (LYNX & DRAGON) £7.95
Escape from the mine with as much money as you can, but don't get closed in or caught by the prowling monsters. An addictive machine code game, with superb graphics and save facility.
Price .... (SPECTRUM & ZX81) £4.95

SULTAN'S MAZE by Christopher Hunt .... (LYNX & DRAGON) £7.95
Enter the 3D Maze in search of the Sultan's jewels, but beware, your strength may run out, or you may come face to face with the Mad Guardian. A multi-difficulty game with fantastic graphics and sound.

CHARACTER GENERATOR by John Line .... (DRAGON) £9.95
A program for the programmer, allowing creation and saving of character sets/shape tables and subsequent inclusion into users basic program. Demonstration program and full ASCII character set included.

GEMPACK IV by W.E. MacGowan .... (DRAGON & LYNX) £7.95
Two great machine code games, with full colour graphics.
In *Sea Harrier* you must land your plane on the aircraft carrier, after dispersing the clouds with chemical bombs, but don't hit the ship!
In *Sub Chase* you must depth charge the wolf pack without being sunk.
Both with 4 levels of play from easy to kamikaze!

CHATEAU by Pete Allen .... (DRAGON) £7.95
A new type adventure, in which you must wander the Count's old mansion in search of treasure! Of course, when the Count died and hid his treasure he also left lots of unpleasant surprises for those brave enough to try and seek out his riches!! Come face to face with Ghouls and Ghosts, Vampires and Trolls; do you run or fight? Will the mysterious Travel Agent suddenly appear and whisk you away to far off places? Where can you find the key or the lamp? Is the clock booby-trapped? Will you die a cold and lonely death, or will you win through to claim the fantastic treasures of The Chateau??

GAMES PACK III by Christopher Hunt .... (LYNX) £7.95
REVERSI Pit your wits against the Lynx with this easy to learn, yet extremely demanding board game. Five skill levels, from novice to grand master.
SNAKE Guide the snake to the food, but watch out, he will grow and must not eat the wall or himself.
PONTOON An excellent implementation of a favourite card game in full colour with sound. Lynx is a mean Banker.

GOLF by Pete Allen .... (LYNX & DRAGON) £7.95
An excellent Basic program, giving you an 18 hole course, with handicaps and choice of clubs. A golfing weakness must be specified. Amazing full colour graphics and sound!!

All titles available mail order or Access.

All cassettes despatched by return of post.

GEM SOFTWARE

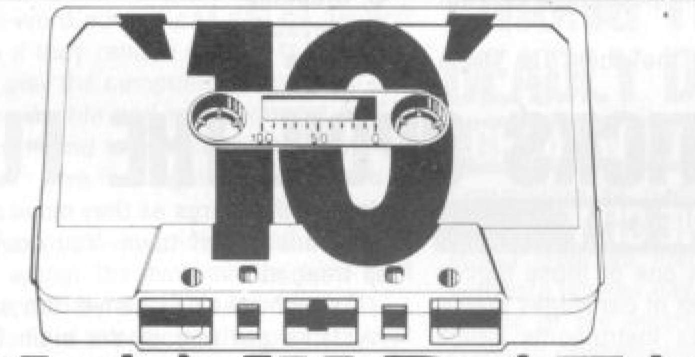
UNIT D, THE MALTINGS, SAWBRIDGEWORTH, HERTS.

Telephone: (0279) 723567

TRADE ENQUIRIES WELCOME — PLEASE RING FOR DEALER PACK.

STARTECH

Absolutly the lowest prices!



'10' BLANK DATA CASSETTES

£5-95

Inc VAT
Postage and Packing 45p

Computer Grade Data Cassettes suitable for use in all of todays home computers
Each comes with its own case

Tick for further information
☐ VIC 20 PRODUCTS
☐ COMMODORE 64

PLEASE SEND ME
Pack of 10 Data Cassettes

Qty	Price	TOTAL
	£6.40 inc. p&p	

Name ____________
Address ____________

I enclose Cheque. P/O for ____________
CREDIT CARD ☐ ACCESS ☐ BARCLAY CARD ☐ (24hr ANSAPHONE SERVICE)
CVGB

STARTECH 208 Aigburth Rd, Aigburth, Liverpool L17. 051 727-7267

ADDISON-WESLEY

A NEW NAME IN COMPUTER GAMES



This month we're launching an exciting new series of games books for a wide range of home micros.

Each book contains the same 30 original and fully-tested programs, adapted as appropriate for individual micros. Every program is supported by detailed instructions, full listings, and an imaginative illustration to set the scene. There are adventure games, games of strategy and chance, puzzles, quizzes and competitions for all the family, mind-stretchers, and food for thought. Most are short enough for the average user to type in without too much difficulty, although some of the longer and more complex games require a little more work – but the end result makes it all worth while.

The first four ....

SPECTACULAR GAMES FOR YOUR ZX SPECTRUM		
192 pages	0 201 14667 3	£3.95
TANTALIZING GAMES FOR YOUR T199/4A		
192 pages	0 201 14669 X	£3.95
TERRIFIC GAMES FOR YOUR TANDY COLOR		
192 pages	0 201 14668 1	£3.95
VOLCANIC GAMES FOR YOUR VIC 20		
192 pages	0 201 14666 5	£3.95

From bookshops and computer stores everywhere, or by mail order direct from Addison-Wesley, using the coupon below.

Addison-Wesley Publishers Limited
53 Bedford Square, London WC1B 3DZ

Please send me:

☐ copies of Spectacular Games for your ZX Spectrum
0 201 14667 3 £3.95

☐ copies of Tantalizing Games for your T199/4A
0 201 14669 X £3.95

☐ copies of Terrific Games for your Tandy Color
0 201 14668 1 £3.95

☐ copies of Volcanic Games for your VIC-20
0 201 14666 5 £3.95

☐ Addison-Wesley Microcomputing Catalogue 1983/84

I enclose my cheque/postal order for £ ________ OR
Please charge my Access/Visa/American Express/Diners Club
Account No.

Signed ____________ Date ________
Name ____________
Address ____________

Addison-Wesley CVG/1



WILL YOU FLOCK TO BUY THIS VIRGIN GAME?

SHEEPWALK

Sheepwalk is one of the much publicised new titles from Virgin Games — a spin-off from the Virgin record and publishing company.

If this is the standard of their games then I would respectfully suggest that Mr Branson stick to records. At £7.95 it has got to be the rip-off of the year and a dead cert for our Great Software Disasters page.

The idea of the game is to round up all the sheep which have strayed from their pen. You play the part of the sheep-dog — although you could be forgiven for not realising this as the hound is nothing more than a tiny black speck on the scrren. The animal must also have a gammy leg as it moves with the speed of a farmyard ox rather than a scampering dog!

Points are awarded according to the speed at which the sheep have been rounded up and the amount of crops saved from the rampaging flock in the vegetable patch.

The idea for the game is a good one though not entirely original. It falls down on its execution. Written in Basic it's just far too slow. I can't think of any other professional software house who would bring out a game of this type and at this price without first improving its graphics and then speeding it up with machine code.

Perhaps this is the point. Do Virgin see themselves as a software house at all, or is this just another example of the gold-rush mentality which is killing the computer games business with poor quality products.

The idea behind this approach to the business seems to be grab any program you can, and publish as quickly as possible to make a quick killing. Never mind the quality, just look at the full colour cassette inlay.

You have probably gathered by now that I'm not going to rush out and hand over almost £8 for Sheepwalk. Despite this there is something good about the game which I think is worthy of mention.

The author of the game is fully credited on the cassette inlay. We are given a picture of Gregory Trezise as well as a short biography. Software, like records and books, has to be thought of, programmed, and put forward for publishing by the author. The programmers therefore deserve our recognition for their efforts.

- **Getting started** 7
- **Graphics** 3
- **Playability** 3
- **Value** 0

JOYSTICKS SPOIL THE FUN

TOMBSTONE CITY

Tombstone City is one of those games from the official list of cartridges manufactured by Texas Instruments which are given an amount of shelf space disproportionate to the quality of the game.

In fairness to Texas it is an old game and some of the newer ones are of a much higher standard.

It's the buyers in the multiple electrical shops who really deserve the criticism for inducing people to buy these crummy old games. It is time they gave more thought to their software buying — particularly for the TI where there isn't a great deal to choose from.

The idea of the game is to blast all the Morgs that are dotted around the screen. Each time you hit one it turns into a giant desert cactus.

Using the buildings at the centre of the screen for shelter the best strategy is to dart in and out before the Morgs can get you. But don't block your escape routes from the township by blasting the morgs as they move across the roads out of town. You could end up trapped!

As with many TI games the useless joysticks are one of the main factors which spoil the fun.

It's a game which requires quick hand-eye co-ordination and therefore extremely frustrating when your gun will not move as instructed.

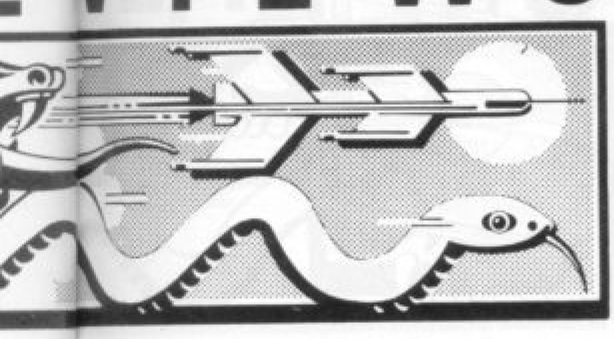
When you have cleared one screen a new day in Tombstone City begins.

If you do venture beyond the walls of the town to take on the Morgs in the desert you may need to use the panic button-space bar which repositions you at random somewhere else on the screen.

Not the best cartridge available for the TI and for my money Parsec and Chisolm Trail are much better games. Tombstone City is in the shops at around £25.

- **Getting started** 6
- **Graphics** 5
- **Value** 3
- **Playability** 4

E·V·I·E·W·S



PSION WIN THE WAR OF WORDS

SCRABBLE

Psion's Scrabble program has jumped straight to a standard which chess machines haven't achieved in 20 years — it can test top human opponents.

Charles Davies of Psion is worried about the 11,000 word vocabulary: "We could have had 20,000 but we went for a fast response time." He needn't be, the game seems to have words aplenty for its own moves and is certainly not guilty of over-challenging the human player's efforts.

The presentation bears witness to the thought that went into it and the 16 page booklet which goes with the game is backed by on-screen prompts and reminders.

On black and white TVs the coloured squares are changed into symbols so triple-word scores can still be spotted even if they remain elusive targets.

In play the computer makes good use of the double and triple squares and is programmed to hold onto an "S" which doesn't give it a significant increase in the score.

It also plays quickly and responds well within the two minute time limit demanded by Scrabble tournaments.

It is hard to criticise this game except on price. Nicely packaged as it is, the £26.95 price tag means that it is only going to find its way into the dedicated Scrabbler's library. A pity because a lot of non-Scrabblers would enjoy it, if given the chance. For the playability mark we tested it out on two top Scrabblers.

- **Graphics** 9
- **Getting started** 8
- **Value** 7

EXPERT VIEW

With 11,000 recognised words crammed into 48K, Spectrum Scrabble is a marvel of modern programming techniques but how close can it run the serious Lexicographer.

Scrabble is a competitive game for over 700 members of Scrabble leagues and clubs and the national finals are keenly fought by wordsmiths capable of scoring 6-700 points in each game.

We asked two regular entrants into the national finals, Heather Twidle and Jose Cope of Ware Scrabble Club to test out the Spectrum as an opponent and stood by to take notes.

They were very impressed with the clarity of the board and the presentation of the screen, liked being able to see the Spectrum think through its moves and were pleased it totted up your score before asking you to commit a word. It also keeps score of the game and (important for the series Scrabbler) keeps a note of how many tablets are left in play.

The program received top marks for its combinations of words and its game standard was generally rated as high. After a few practices, they took the machine on at the top level and after a mighty struggle which included three seven letter words, finally beat it by just four points — 397 to 393.

The computer did not have to challenge often. It questioned Jos (Scottish sweethearts) but accepted Qua and it earned good marks for its vocabulary.

While it was voted extremely user friendly it was a fierce competitor.

And both would like to own the game to practice against. Which gave us the idea of running a competition to give Scrabblers the chance to win a Spectrum and this program. Read the September issue for your chance to enter our wordy competition for top Scrabblers.

- **Playability** 10

FRENETIC FUN AMONG THOSE DEADLY DROIDS

GRIDRUNNER

Commodore 64 owners are in for an enormous number of new games to chose from as many of the leading software houses have decided that this is one of the machines that they are going to concentrate on.

In this review one of the first 64 games to be launched in the UK is taken through its paces.

Gridrunner is an adaptation of the popular arcade game Centipede in which you had to fight it out with the insects in a mushroom field.

In Gridrunner the insects and spiders are replaced with Pods, Droids and Leader Droids.

It is the year 2190 and the mutants are thriving on the energy generated in the Earth's lunar power station.

As the last protector of the Grid you must blast the alien Droids before they can mass in sufficient numbers to launch an attack on Earth.

You will need all the manoeuvrability of the combat ship if you are to avoid the Grid Search Squads who are made up of a conga-line of Droids. These are



like the worm in Centipede and must be split up as quickly as possible. Hit the leader Droid to earn 400 points.

One original addition to the basic Atari design are the X/Y Zappers who move up and down the left hand perimeter of the grid and along the bottom of the grid. Every so often they pause to shoot a plasma-beam up screen towards you. The Zappers are your main opponents in this game and the knack is to constantly move away from them when ever they are close.

Every time you clear a grid you receive a bonus combat ship. Your cannon is capable of rapid-fire which you will need as those Droids keep on coming with 31 attack waves.

This may not be the most original game for the 64 but it is one of those frenetic shoot 'em ups that keep you coming back for more. Gridrunner is available from Llamasoft of Hampshire at £5.

- **Getting started** 6
- **Graphics** 6
- **Value** 7
- **Playability** 7

BOUNTY BOB BEATS THE ACTIVE APE!

MINER 2049'er

Bounty Bob is the hero of top selling Miner 2049'er. The ten-screened climbing game which has rocketed to the top of the American best sellers charts is now available on 16k cartridge in the UK.

While Atari drag their feet on bringing out the official Nintendo Donkey Kong the Miner will capitalise as the best available climbing game for the Californian micro. Chances are it will prove a better game than D'Kong anyhow.

Its' ten screens and multifarious challenges will take some beating. Game play is very Kong-esque. Our hero can be made to run right and left, climb up and down ladders and jump by depressing the fire button to hop over the nasties.

There is also a touch of Pacman as some of the nasties change shape after Bob collects a certain artifact enabling him to eat his adversaries to score bonus points. Just as in Pacman you must be quick as the nasties can change back at any second. Once Bob has collected all the spanners, pickaxes and gold nuggets, found his way to the top of the screen Bob has staked his claim and can move on to the next mine.

Now a word on the screens — there are ten of them so I won't describe them all in detail. Some of the highlights are slides, lifts, transporters and even a cannon on the final screen which fires Bob up to the top of the screen when he has collected sufficient gun powder.

The key to negotiating most of these screens is to carefully time your leaps. Many peaks and ledges have to be successfully leaped on to, some of which are patrolled by the mutants — so you must be careful to land on these when they are in digestible form. Also be careful not to fall off the edge as Bob can only fall a certain distance without killing himself.

For seasoned gamers the first few screens will provide little or no challenge. To prevent the tedium of climbing through these levels, the game does allow you to start preliminary on any of the ten levels.

To do this simply run Bob up to the top of the first ramp — out of the way of the mutants — and type in 2137826861 and then shift 1 to 10 — depending on which screen you wish to start.

Big Five Software do not print the above information on any of the documentation which comes with the game so you would be well advised to hang on to this review or make a note of the code number. If, on the other hand, you want to be sure of working your way up through the screens on your own merits burn this *C&VG* now.

A splendid game — very addictive and every bit as good as anything to come out of the Atari stable.

Available from Calisto Computers at £29.95 for the Atari 400/800.

- **Getting started** 8
- **Playability** 8
- **Graphics** 7
- **Value** 7

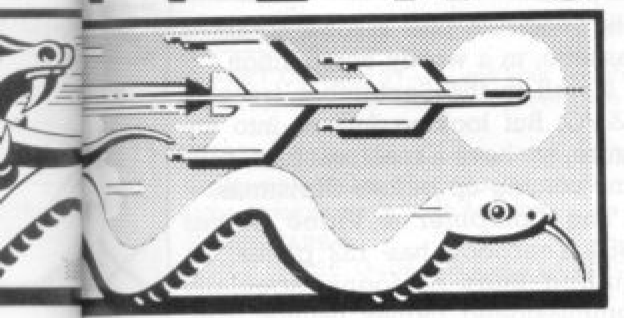
KILLER KONG COMES UP TRUMPS ON BBC

KILLER GORILLA

Donkey Kong has been a long time converting to the BBC microcomputer —probably because the software writers wanted to be quite sure of the quality of their game before trying to tap the enormous potential sales of this popular game.

After a lengthy thumb blistering session I can report that this Micropower version is well up to the standards expected by your good self — the discerning *C&VG* reader.

E·V·I·E·W·S



Four screens of Gorilla frenzy are waiting to be enjoyed in this game — just as in the Nintendo arcade version.

The plot — for those of you who have been in hibernation for the last two years, owes a lot to the Hollywood classic — King Kong. Gorilla grabs girl and takes her to top of scaffolding. Gallant Italian carpenter comes to rescue. Gorilla attempts to thwart the rescue bid by showering our hero with barrels.

Screen one is easily mastered and the skilled gamester will get to the top of the screen each time every time as a mere formality.

Number two is a little tougher introducing fire balls and deadly custard pies sailing along a moving conveyor belt which is trying to take your little mans legs away from him before he can get up the ladders.

For most of you though the real test is to be found on the third screen.

The ladders are few and far between at this level so you will need to make precise runs and leaps in order to work your way up the platforms to the top of the screen. Also watch out for the falling dumb-bell which can land on your head just before you make the final heroic leap to the fourth screen.

I did spot a bug on screen three — very occasionally Mario will fall down dead for no apparent reason when he is on his way up the ladder in the centre platform.

Other gripes were with the graphics which had a tendency to flicker and much of the on screen movement seemed shaky.

Having said this it must also be said that Killer Gorilla is the best version of Donkey Kong yet for a home computer.

The game is available from Program Power of Leeds at £6.95.

I played the game using the keyboard but it must be immeasurably improved with the addition of a joystick.

One other improvement could have been included in the program itself — a level selecter. After a great deal of practice it became tedious having to jump through the first and second screens just to get to the third screen — which was as far as I managed to get.

- **Getting started** 7
- **Graphics** 8
- **Playability** 8
- **Value** 10

COMMODORE ALIENS BACK TO BASICS . . .

GORF

Gorf managed a moderate success in the arcades and with its helicopter style joystick will be familiar to most of you.

Four levels of shoot 'em up action await your intrepid laser base in this new cartridge game from Commodore for the Vic-20.

The first wave is nothing more than a fleet of archaic Invaders — which you shoot at through an arc of protective force field. This protects both you and the aliens — you have to find a gap to blast through!

Once these have been dismissed you fight it out with a much tougher breed of laser spitting aliens who flap — bird-like — all over the screen. Tough — but not too tough.

Far harder — is the third wave which has the aliens spinning out of deep space 3D style. If you can get beyond this wave you are a better space pilot than me!

If you can battle your way through to the fourth wave you get to take on the Gorf's on their home territory. This is the toughest test of all with fireballs to be dodged. Finally the flagship appears. You must penetrate the craft's neutronium hull if you are to destroy the power reactor.

As an added incentive to work your way up through the ranks you are given a rank based on your performance at the end of each mission. Starting with Space Cadet the supreme challenge is to become a Space Avenger.

Gorf is one of four new cartridges from Commodore — in the shops now at £25 for the unexpanded Vic. Although it is a reasonable conversion of the arcade game you would get much better value for your money by investing in five different cassette based games which you could get for the same price.

- **Getting started** 9
- **Graphics** 6
- **Value** 3
- **Playability** 5

NEXT ISSUE

Vic owners are in for a treat next month as our resident Donkey Kong expert tests all the versions on the market for this popular micro.

New arcade conversions from Atari in the shape of Dig Dug and Donkey Kong and a review of an exciting new game from the English Software House with a real diamond as a prize.

Also reviews for Commodore 64, ZX81, Texas Instruments and the BBC. Don't miss our no holds barred reviews section next month — written by experts for experts.

N·E·X·T M·O·N·T·H

VIOLENT SPACE

Next month the Quest is on to find the living room champions who are taking computer games to the limits.

We are starting a Hall of Fame high score chart on a range of selected games which we will add to each month.

First up will be Violent Universe from Quest of Cheltenham. The game puts you in a spacecraft in charge of a canister of deadly stellar gas-clouds.

As alien craft float through space the player sends out gas clouds which destroy any alien unlucky enough to enter into them.

The game can be played on a keyboard or a joystick. You have 40 seconds to conquer each level and must score more than 1,000 points to move on to the next level.

Quest have developed a system for checking high scores against a code and instantly validating them. This system has already worked well on Quest's previous game, Black Hole and the current top scorer is Russell Capel with 2530.

Scores on Violent Universe should be sent into Quest on the address shown on the cassette inlay and we will start publishing our Hall of Fame next month. If there are other cassettes you think we should include in a Hall of Fame please let us know by dropping us a line.

Violent Universe costs £5.50.

DIZZY SPELLS

Two sorcerers locked in spell-binding battle in an enchanted forest provide the action in a thrilling game Stones of Wrath, next month.

As your opponent sends a deadly Swarm spell down upon you, you throw a hasty Shield Spell and reply by conjuring up a Demon to despatch off through the forest to try and defeat the other wizard.

It's a game of atmosphere and cunning strategy as you try to outwit one-another and it features on the front cover of our September issue.

There's Star Trek in 32k; Vic Quest; Turtle Hop, a fascinating new computer game called Turtle Hop which bears no resemblance to Frogger; Caterpiller and Assault, plus a whole lot more in a thrilling summer edition.

We also have a run down on just how Psion managed to teach their Spectrum 11,000 words and the fascinating history of Scrabble-playing computers. This is backed up by a chance for keen Scrabblers to win a 48k Spectrum plus Psion's Scrabble cassette, in a wordy competition.

It's all in the September issue of *C&VG*. But looking further into the future, we have a real treat for *C&VG* fans coming up before Christmas.

The *Computer & Video Games* 1984 Yearbook has 132 pages, including Bugs cartoons, specially commissioned games listings, professional hints to help beginners present their games and much much more. We'll let you into further secrets of our 1984 Yearbook next month.

There's just no room left for Arcade Arena next month — but it will be back in October with four arcade-style games for your favourite micros!

JUMPING JACK

Imagine's Jumping Jack is the latest addition to the company's range of Spectrum games and should soon be leaping up our best-sellers chart.

And the Liverpool software house has given us 100 Jumping Jack cassettes to give away this month.

The first 100 coupons we receive from readers will earn a copy of Jumping Jack for their 16 or 48K Spectrum.

Just fill in the coupon below and send it to us care of: Jumping Jack, Computer & Video Games, Durrant House, Herbal Hill, London EC1R 5JB.

PLEASE SEND ME A COPY OF JUMPING JACK FOR THE SPECTRUM

NAME: ....

ADDRESS: ....

....

....

Next month we have 300 tapes to give away. There is 100 of each of Imagine's (currently secret) new launches. Two games are aimed at Spectrum owners, and the third is for Commodore 64 owners. We are basing this competition around Manchester and the first 300 letters or postcards we receive next month with a Manchester postmark will receive a cassette.

So if you live in or around Manchester, make sure you're at your newsagents bright and early around the 15th of the month and we'll return the cassette of your choice to you if you're among the first 300 to write in.

N·E·X·T · M·O·N·T·H

NEW GAMES FROM

Blaby Computer and Video Games

DRAGON 32

PLANET CONQUEST — Land your Freighter Ship safely and then you may proceed to your next solar system. (Skill levels etc.) Three screens. £6.95

RAIDERS — In this adventure you must deal with voodoo curses, alligators, ancient traps and hostile natives, leave the large city and travel to the dense jungle of South America. £5.95

GAMES TAPE 1
SPACE CHASE. Guide your space craft through the astroid belt and dock with your mothership, sounds easy doesn't it!
POKER
Superb graphics.
ALIEN (Adventure)
You are the sole survivor on a huge star ship, but you are not alone. £6.95

SPECTRUM

CONFUSION — You are totally "CONFUSED" and are being attacked from both sides by the most nastiest Aliens known in the universe. 48K M/C £4.95

GOLD DIGGER — Dig your way through the mine and collect the gold nuggets on your way and stay ahead of the nugget gnashers. 48K M/C £4.95

CHOPPER RESCUE — Scientists are being entombed under radio active waste, can you as a Helicopter Pilot rescue them all in time? 48K M/C £5.95

KOSMIC PIRATE — Guide your pirate vessel through the massive fleet of space craft that has encircled the planet Verox and try to steal your essential supplies. 48K £5.95

HIGH RISE HARRY — Featuring Harry Highrise and the nasties. Guide Harry along the scaffolding, up the ladder, onto the lifts, but mind the slides! Five different screens. 48K £5.95

Blaby Computer and Video Games

Crossways House, Lutterworth Rd, Blaby, Leicester.
Telephone: 0533 773641

TWICKENHAM COMPUTER CENTRE LTD

ACORN · commodore · apple

Buy the **BEST BRITISH COMPUTER**

As supplied to schools, local authorities and government departments by the leading BBC/Acorn dealer & service centre

BBC Model A £299 BBC Model B £399
Wordwise Word Processor (needs 1.0 System)
Software – Acorn, Bugbyte, Computer Concepts (logo 2)
Acornsoft on Disk
Joysticks for the BBC – 100K Single Disk Drives
BBC 800K Twin Disk Drives
Torch 800K Twin Disk Drives with CPN

ALL PRICES INCLUDE VAT!

We stock all the extras:
Floppy disk interface
Econet network interface
Voice synthesis circuits
Cartridge ROM pack interface
Alternative high-level languages
Cassette recorders
Dot matrix printers
Daisywheel printers
Teletext & Prestel units
Monitors + Disk drives
(subject to availability)

✱Commodore 64: £299 **✱Coming soon: Acorn Electron – phone your order now!**

Apple IIE 64K on special offer – phone for latest price

SPECIAL OFFERS
Whilst stocks last!

For the BBC:
Screen Layout Pad,
Flow Chart Pad &
Symbol Design Pad

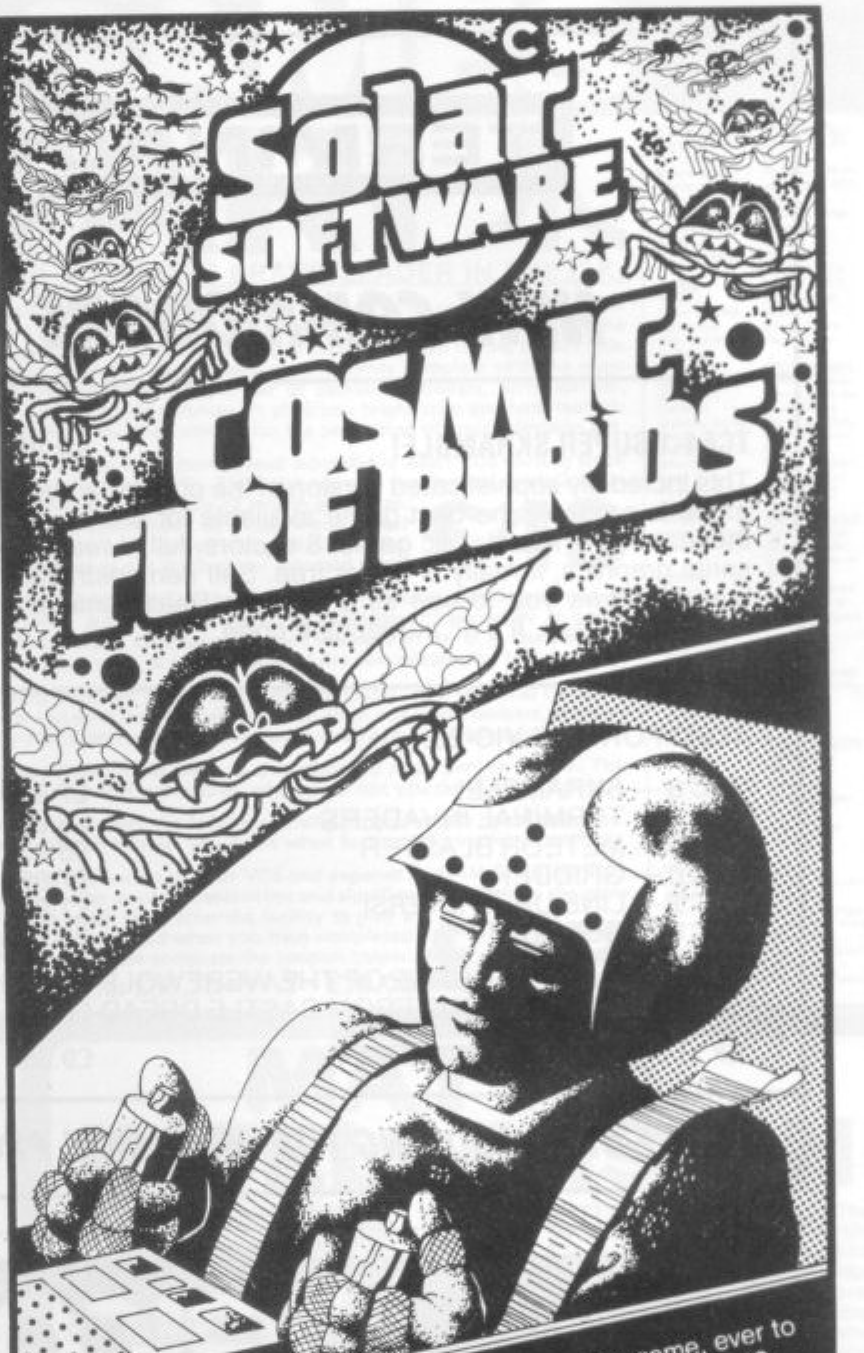
Kit with ring binder
Rec retail price £15.50
OUR PRICE ONLY
£12.50 incl VAT

Daisywheel Printer for BBC (complete with interface) £425
Star 510 Dot Matrix Printer £325
Star 515 Dot Matrix Printer £425
Brother Daisywheel Printer £550
Black & White TV with Monitor conversion
12": £60 14": £70
Cassette Deck (BBC compatible): £30
Tantel Prestel Adapters: £100

Post & Packing EXTRA

Plus software, peripherals, games, books and much more always available from:
Twickenham Computer Centre
72 Heath Rd Twickenham Middx TW1 4BW (01-892 7896/01-891 1612)

Nationwide delivery by Securicor



This must be the most spectacular arcade action game, ever to be produced on cassette for the 8 or 16k expanded VIC 20.

As captain of a star ship lost in space, you encounter a miraculous force of winged creatures, known to the galaxy as the COSMIC FIRE BIRDS. They loop the loop. They figure of eight. They swoop. They dive, can YOU survive. Full screen display, 99 progressive levels of play, 5 lives, Bonus ship at 5,000 points, swarmers, bombers, leaders, hawks.

This is arcade action like it's never been seen before. 100% M/C. Superb colour graphics and sound.

£9·95 P&P Inc.

Available mail order from
51 Meadowcroft, Radcliffe,
Manchester. M26 0JP
Tel: 061 724 8622

Also available from
Micro C Manchester, Micro North, Bury
and soon all good computer shops.

Other games available for the unexpanded VIC.

Scrambler	M/C	£5.00
Galaxions	M/C	£5.00
Super Breakout	M/C	£5.00
Cavern Raider	M/C	£6.00
Munch Man	M/C	£5.00
Gun Fight	M/C	£5.00
Asteroyds	M/C	£5.00

ALL ORDERS SENT BY RETURN POST
TRADE ENQUIRIES WELCOME



HARDWARE

Atari 400 with 16K RAM	(AF36P)	£149.99
Atari 400 with 48K RAM	(AF37S)	£214.99★
Atari 800 with 48K RAM	(AF02C)	£299.99★
All above with BASIC and handbooks		
Atari Cassette Recorder	(AF28F)	£50.00
Atari Disk Drive	(AF06G)	£299.95
48K RAM for Atari 400	(AF44X)	£65.00
48K Upgrade for 400	(AF45Y)	£65.00
Commodore 64	(AF56L)	£339.00★
16K RAM for VIC20	(AF53H)	£59.95
Commodore Cassette	(AF48C)	£44.95
Commodore Disk Drive	(AF50E)	£299.99
Dragon 32	(AF57M)	£175.00
Dragon Joystick	(BC30H)	£14.95
Cassette Cable for Dragon	(BC31J)	£2.95
Epson Printer MX80F/T	(AF40T)	£447.35
MENTA	(XG28F)	£115.00
Floppy Disk	(YX87U)	£2.50
5 C12 Data Cassettes	(AF61R)	£1.99
Joystick Controller	(AC53H)	£7.50
Joysticks (Pair)	(AC37S)	£13.95
Le Stick	(AC45Y)	£24.95

Full details all above in MAPLIN catalogue.
★ Delivery next day by Datapost

SELECTED SOFTWARE

ATARI

Attack At Ep-Cyg-4	-1E-16K-KF54J	£34.95
*Baja Buggies	-1C-16K-KB74R	£22.95
Candy Factory	-1D-32K-KF53H	£21.95
Claim Jumper	-1E-116K-KB67X	£34.95
Defender	-1E-16K-KF10L	£29.95
Forth	-1D-24K-YL29G	£62.95
*Frogger	-1C-16K-KB68Y	£22.95
Galaxian	-1E-16K-KF11M	£29.95
Gorf	-1E-16K-KB44X	£34.95
*Hellfire Warrior	-1C-32K-KF02C	£27.45
K-razy Shootout	-1E-8K-BQ63T	£34.95
*Moon Shuttle	-1C-16K-KF22Y	£27.50
Pac-Man	-1E-8K-BQ71N	£29.95
Paint	-1D-48K-KB22Y	£29.95
Picnic Paranoia	-1E-16K-KF13P	£34.95
*Preppie	-1C-16K-KB07H	£21.95
Qix	-1E-16K-KF16S	£29.95
SAM Speech Synth	-1D-32K-KB15R	£47.19
*Shamus	-1E-16K-KB90X	£34.95
Softporn Adventure	-1D-40K-BQ93B	£20.64
Starcross	-1D-32K-KB37S	£29.95
Synassembler	-1D-48K-KB83E	£38.95
*Zaxxon	-1C-16K-KF20W	£31.50
Zork I	-1D-32K-BQ94C	£29.95
Zork II	-1D-32K-BQ95D	£29.95
Zork III	-1D-32K-KB31J	£29.95
*3D-Supergraphics	-1C-40K-BQ29G	£31.95

Plus over 280 other titles for Atari.

COMMODORE 64

Temple Of Apshai (Part 1)	-1D-BC57M	£27.45
Upper Reaches (Part 2)	-1D-BC58N	£13.80
Curse Of Ra (Part 3)	-1D-BC59P	£13.80
Sword Of Fargoal	-1D-BC60Q	£20.75
Crush, Crumble & Chomp	-1D-BC61R	£20.75
Jump Man	-1D-BC62S	£27.45

DRAGON

Berserk	-1E-BC32K	£19.95
Black Sanctum	-1C-BC78K	£7.95
Dragon Trek	-1C-BC82D	£9.95
Galax Attax	-1E-BC79L	£19.95
Quest	-1C-BC41U	£7.95
Wizard War	-1C-BC83E	£7.95

Plus 30 other titles for Dragon

SPECTRUM

The Hobbit (48K)	-1C-BC88V	£14.95
Timegate (48K)	-1C-BC89W	£6.95
Space Intruders (16K)	-1C-BC90X	£4.95
Meteor Storm (16K)	-1C-BC91Y	£4.95
Chess Player (48K)	-1C-BC92A	£6.95
Speakeasy (48K)	-1C-BC93B	£4.95

VIC20

Crush, Crumble & Chomp (+16K)	1C-KK10L	£20.75
Datestones Of Ryn (+16K)	-1C-KK13P	£13.80
Invasion Orion (+16K)	-1C-KK12N	£17.25
Monster Maze	-1E-KK11M	£27.45
Plattermania	-1E-KK14Q	£27.45
Princess & Frog	-1E-KK16S	£29.95
Rescue At Rigel (+16K)	-1C-KK08J	£20.75
Ricochet (+8K)	-1C-KK15R	£13.80
Sword Of Fargoal (+16K)	-1C-KK09K	£20.75
Tank Arcade	-1C-KH18U	£11.95

Plus 80 other titles for VIC20

**Disk versions also available though price and memory size may be different.*

Send sae now for our new software leaflet with details of all programs added since Maplin catalogue.
Order As XH52G Issue 4.

ATARI®
AUTHORISED ATARI SERVICE CENTRE

MICROWRITER



The new hand-held word processor that eliminates the need for a typist. You can learn the Microwriting technique in less than an hour and produce perfectly typed text the same day.

Microwriter (AF62S) £485 + £72.75 VAT★
Complete Word Processor Package (Microwriter, printer and lead) (AF63T) £1,205 + £180.75 VAT ★
Available ONLY by mail order or from WESTCLIFF shop.
★ Delivery next day by Datapost

The brilliant new colour computer

SORD M5



A superb new home computer with one of the most powerful colour video processors available. An incredible 32 sprites simultaneously and 16K of RAM dedicated to graphics alone. Powerful Z80A (3.5MHz) main processor. Three tone generators and noise generator all with envelope control like a mini-synthesiser. Complete with BASIC and superb handbooks for beginners. All this for just £189.95 (AF64U)

INTEREST FREE CREDIT NOW!

If your order contains over £120 worth of computer hardware apply now for interest free credit by telephoning: Mail-order: (0702) 552911. London Shop: 01-248 0926. Birmingham Shop: 021-356 7292. Southend shop: 0702 554000 or write to P.O. Box 3, Rayleigh, Essex SS6 8LR.
You pay 10% down, then 10% per month for a further nine months (to nearest penny).

Credit quotations on request. This offer subject to approval which can take up to 48 hours (APR = 0%).

Mapsoft full colour catalogue. Price £1 incl. post. Maplin catalogue contains full details of all hardware and lots of software. On sale now in all branches of W. H. Smith, price £1.25 or £1.50 incl. post from PO Box 3, Rayleigh, Essex.



Maplin Electronic Supplies Ltd., Mail Order: P.O. Box 3, Rayleigh, Essex SS6 8LR. Tel. Southend (0702) 552911 (Sales).
Demonstrations at our shops NOW.
159-161 King St., Hammersmith, W6. Tel. 01-748 0926. 284, London Road, Westcliff-on-Sea, Essex. Tel. (0702) 554000. Lynton Square, Perry Barr, Birmingham. Tel. (021) 356 7292.
All goods delivered in UK mainland carriage paid, but add 50p if total order less than £5 except catalogues. Orders including items marked ★, delivery next day by Datapost.
Subject to availability. All prices include VAT unless shown. Prices correct at time of going to press.

QUEST

MICROSOFTWARE

SIMPLY THE BEST

Momentum is building fast with the **BLACK HOLE** High Score **COMPETITION.** Leading score so far is an amazing 2530 sent in by Russell Capel of Swindon Village, Glos.

When we designed the **BLACK HOLE** we decided to provide a real challenge for the player — and we appear to have succeeded since very few people have managed to pass the 'magic' barrier of 1000. Could YOU be the next?

Our second game, **VIOLENT UNIVERSE,** is now available and will run on any Spectrum. In addition to having the same addictive and challenging qualities as The Black Hole, and another totally original game plan, the **VIOLENT UNIVERSE** offers a complete visual experience with its animated graphics and violent explosive effects.

QUEST — A NEW DIMENSION IN SPECTRUM SOFTWARE — The battle could be yours . . . but it won't be easy!

THE BLACK HOLE and **VIOLENT UNIVERSE** are available from **QUEST MICROSOFTWARE, 119 THE PROMENADE, CHELTENHAM, GLOS** at £5.50 each

or from your
local software retailer
For details please ring
0242-583661

GAMES MACHINE LTD.

GAMES AND EDUCATIONAL PROGRAMS WANTED

We produce and market original games and educational programs for the following Home Computers:

ATARI — BBC — COMMODORE 64 & VIC 20 — DRAGON — ORIC — LYNX — SINCLAIR SPECTRUM — TI 99/4A — ETC.

On accepting a program for marketing we agree a cash fee and give royalties.

IF YOU HAVE A PROGRAM WHICH YOU BELIEVE TO BE FIRST CLASS SEND IT TO US FOR AN IMMEDIATE EVALUATION.

Good Utility programs will also be considered.

Write to:

**GAMES MACHINE LTD.,
Business and Technology Centre,
Bessemer Road,
Stevenage, Herts. SG1 2DX.**

WE HAVE SOUND . . . COLOUR . . . ACTION . . . . . . WE HAVE R&R SOFTWARE



Wn... ,er you have an Oric, Spectrum or ZX81 you can play golf in the comfort of your home.

ZX81 16K (Not illustrated) All the excitement of the professional circuit. For 1 or 2 players. You can select either 9 or 18 hole course. Try and overcome obstacles such as trees, bunkers, water – even the rough can be tricky! Full on screen instructions. ONLY £3.75

Spectrum Golf 16K Similar to ZX81 Golf but utilizing the Spectrum colour graphics and sound. ONLY £3.75

Oric Golf 48K A Further development of Spectrum Golf utilizing 48K of memory and the excellent Oric graphics. For 1 to 6 players. ONLY £7.95

If golf isn't your game try the other games in our range.

FOR SPECTRUM

Star Trek 48K See if you can rid the galaxy of the evil Klingons, save the Federation from the treacherous Romulans, race to protect your star-bases from attack. Are you star-ship commander material? ONLY £4.95

Spectipede 16K See how long you can keep the Spectipede at bay as they decend upon you. You'll have the help of poison mushrooms and your gun which both kill the Spectipedes but look out for the spider – he will try to jump on you. For 1 or 2 players. Operates with most leading Joysticks or the Keyboard. ONLY £4.95

Gnasher 16K The ultimate maze game. Eat the dots but look out for the ghosts they could eat you! If you eat an energy pill you can eat the ghost. Full colour graphics and sound. Operates with most leading Joysticks or the Keyboard.

NEW FOR THE ORIC

Oric Quizzmaster 48K A menue driven quiz game utilizing sound and colour. Instructions are also given to substitute your own questions and answers. Great fun for all the family and ideal for education i.e. revision

Quizzmaster 1 – General knowledge, sports and pastimes.
Quizzmaster 2 – General knowledge, rock and pop.
Quizzmaster 3 – Out soon.
ONLY £7.95 each which includes a £2.00 discount voucher for your next Quizzmaster.

Further Quizzmasters to follow.

R&R SOFTWARE

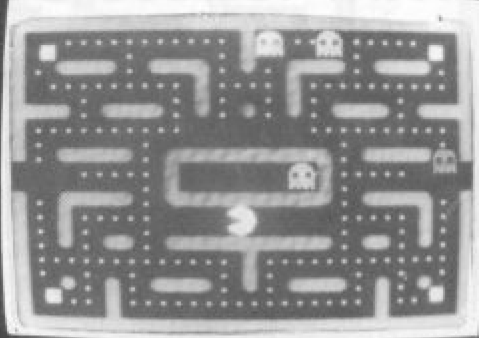
**34 Bourton Road,
Tuffley, Gloucester, GL4 0LE
Tel: (0452) 502819**

SPECTRUM GOLF available from WHSMITH

ZX SPECTRUM

NEW! GHOST'S REVENGE

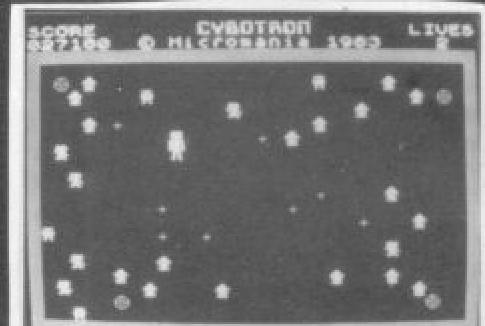
by Dominic Wood



The best maze-chaser game available for the Spectrum *Super-fast machine code action *Excellent graphics *Full use of colour *Sound effects and tunes *Normal or Invisible maze *Skill level selector, novice to expert; this game cannot be beaten *Usual features, gobble action, four ghosts, power pods that turn the ghosts blue, blue ghosts give 400, 800, 1200, 1600 bonus points. Top score, for Spectrum 16k or 48k. ONLY £5.95

NEW! CYBOTRON

by Dominic Wood



New from Micromania, this has to be one of the best arcade type games available for the Spectrum. Blast away the attacking robots before they get you *Super-fast 100% machine code action *Excellent, smooth full colour graphics *Explosive sound effects *Four different types of robots *Deadly accurate bombs *With up to 50 robots on screen at a time, this game cannot be beaten. Top score, for Spectrum 16k or 48k. ONLY £5.95

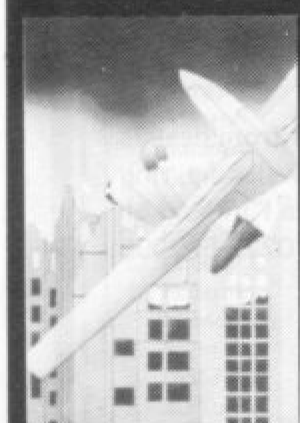
PRICES ARE FULLY INCLUSIVE. GUARANTEED DESPATCH BY 1ST CLASS RETURN POST. TRADE INQUIRES WELCOME

MICROMANIA

Send cash/cheque/PO to: Micromania. 14 Lower Hill Rd., Epsom, Surrey, KT19 8LT. Please write clearly your Name, Address and magazine & month this advert was seen in.

ARCADE ACTION and FANTASY WORLDS

TEXAS TI99/4A



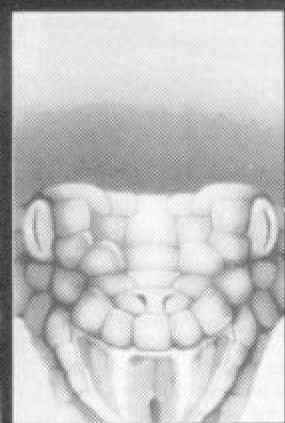
BOMBER
Bomb away the Skyscrapers to form a runway, before lack of fuel causes you to crash
£4·95



HAUNTED HOUSE
Explore the ruined mansion but leave before midnight
£4·95



SORCERER'S CASTLE
40 locations to explore, can you rescue the princess
£4·95



SNAKE
Feed your hungry snake and watch him grow.... beware the rocks
£4·95



CHALICE
Can you retrieve the golden chalice from the ruined temple
£4·95



FORBIDDEN CITY
Discover the Aliens hidden treasure, many dangers await
£4·95

APEX SOFTWARE

115 CRESCENT DRIVE SOUTH,
BRIGHTON BN2 6SB TEL:(0273) 36894

All prices include VAT. Please add 50p p&p to orders under £6. Orders over £6 post free. Send cheque or P.O. or telephone with Access, Barclaycard for immediate despatch. Send s.a.e. for list.

VISA

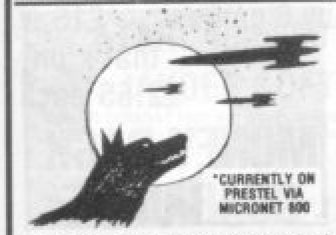
TRADE ENQUIRIES WELCOME



BBC 32K 747 FLIGHT SIMULATOR & BRIEFING

ALL OPERATING SYSTEMS

A full blown, pilot written simulation (writer of the famous Atom 747) real time instrument and visual display, 3D runway view (Heathrow or Gatwick), large dials, moving pointers plus digital readout. Demonstration approach and landing. Full, separate briefing program. Area chart, notes and flight plan. Fantastic!



A new concept, a new classic . . .

Wolfpack III

BBC 32K, all operating systems

Combat briefing and program

"Sometimes your first warning is a lancing disruptor beam striking from beyond—sometimes they materialise close at hand. You are either quick or dead!" "A think, zap and think again game!"

True in-space cumulative motion, amazing full colour Starfield graphics & sound. Multiple ship control, each ship has its own mission and destiny, 4 types of enemy, meteor strikes. Good strategy rewarded by energy & promotion. Poor combat rewarded by death! (but rescue/refuel possible). Rotating base station, inter-galactic warp.

KREMLIN multi level maze escape with Gremlins/bomb/3D graphics and sound/map/compass/quiet explore option!

HARMONY: infinite, saveable, 3D patterns of colour and sound, menu driven.

WORD PERFECT friendly and versatile, full facility 40/80 column word processor (add £4 for disc version)

DEALERS ONLY PLEASE PHONE (0903) 206076 **ROYALTIES** DOC PAYS THE BEST FOR THE BEST

Orders to: Doctor Soft, Dept G, 258 Coneygree Rd., Peterborough PE2 8LR

NO extras all prices fully inclusive

- **Special offer £1 off for 2 items, £2 off for 3 items, etc**

.... copies of 747 @ £7.95
.... copies of Wolfpack £7.95
.... copies of Kremlin £6.95
.... copies of Harmony £6.95
.... copies of Word Perfect £9.95

TOTAL £ ____

Name..............................

Address..............................

....

....



DOCTOR SOFT

ADVANCED SOFTWARE

FOR ANY SINCLAIR **SPECTRUM**

TWO EXCITING NEW GAMES FROM

FASHIONSOFT

THE HOUSE OF GRAPHIC DESIGN

MENACE MENACE

WHY collect the SAME GAME every time WITH just the title changed

AN ORIGINAL, fast action, machine code ARCADE GAME, no invaders (well NASHER maybe)

YOU **ARE MENACE!!!** YOUR OBJECTIVE TO HARASS AND OFFEND

MENACE AUTHORITY FOR ONLY £4.95 inc P&P

THEN COMES ..... **ARMAGEDDON** .... THE LAST DEFENCE

When space fortress Armageddon was built few people felt it would ever be needed. But... the pods are coming... your fighter is launched... a small COSMIC GUSHER is formed between you and the earth and DEMON bombers invade our space... your lasers spitting white hot death AND still the pods advance... and always the BEAST... dominant... wavering ominously above the... the moon is destroyed... our lunar companion vanquished... the debris glowing blood red... Mother Earth next...

and . . . **ARMAGEDDON** the last defence

MEAN, FAST MACHINE CODE ACTION FOR ONLY £4.95 inc P&P

BOTH GAMES KEMPSTON JOYSTICK COMPATIBLE (OR KEYBOARD)

Send Cheque/PO payable to:

FASHIONSOFT, 13 NYMPSFIELD RD, GLOUCESTER

24 hour ANSAPHONE service (0242) 674960

but please hurry (ARMAGEDDON may begin in 1984)

SHARP

GAMES
MZ-80K
MZ-80A

Send for our catalogue NOW





DRAGON CAVES

A 3-dimensional trip through a maze of over 1,000 chambers. Hidden deep in Dragon Caves is the Magic Amulet stolen from you by the Dragon's slaves. This Amulet must be found and removed from the Caves together with any other treasures that you may discover. In the maze there are several creatures, some of whom you must kill and others who will help you—if they feel like it. The only exit from the Caves is patrolled by a fearsome Dragon who you must defeat to escape with the Amulet. Superb 3-D graphics and realistic monsters make this a must for all owners of Sharp machines.

Price £9.95.



TOMBS OF KARNAK

A complex game of battles and discovery through a honey-comb labarynth. First you are allotted a character which will determine your chances in the maze of 50 tombs. Next, you must confront the Guardian of the Tombs and the Quartermaster where you can barter for the armour and weapons that you will need. Then you start your journey through the Tombs of Karnak inhabited by an assortment of lethal beings who you must avoid or kill. Gory details of all battles are displayed on the screen—not for the squeemish amongst you. Characters from this game can be saved on cassette for use in further adventures.

Price £9.95

Tombs of Karnak Frogger Nightmare Park Midas Headache Scoop Chess Club Golf Super Biorhythm Anthill Raider Snaker Inca Gold Master Builder Chock-a-Block Polaris Fighter Command Fire!!! Aladdin's Cave Gold Miner Kentucky Derby Up Yours Alien Attack

Laser Blazer Ace Racer Giant Slalom Mountain Rescue Encounter Fisherman Fred Space Chase Five-a-side Tracker Startrek 3D Van-man Global War Domination Cyfax Apocalypse Attack-a-Tank Super-mouse Three Card Brag Minefield Safe-Cracker and many more

Solo Software
51, Broad St., Worcester WR1 3LR
Telephone (0905) 26524

VIC-20 GAMES SOFTWARE FROM AMERICA

FROM **£2.65** each in six pac

FROGGER. Incredible animation in this high performance graphics experience. Frogs, trucks, cars, boats, logs, turtles and lilypads all combine to give your brain a real workout. **£4.95.**

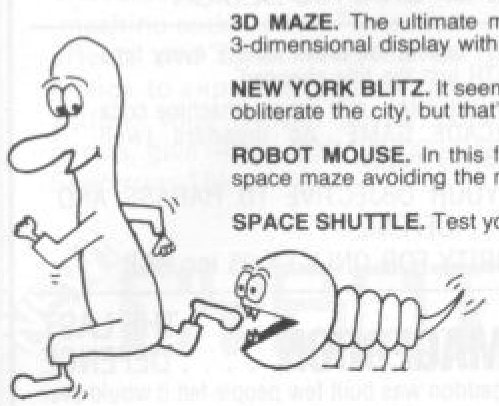
3D MAZE. The ultimate maze game features brain power not fire power. A visually breath-taking 3-dimensional display with a tormenting time factor as the 4th dimension. **£4.75.**

NEW YORK BLITZ. It seems a shame that the only way to safely land your nuclear bomber is to totally obliterate the city, but that's the way it goes. **£4.95.**

ROBOT MOUSE. In this futuristic homicidal game you collect atomic cheese from the floor of the space maze avoiding the mean malfunctioning androids who kill on contact. **£4.50.**

SPACE SHUTTLE. Test your reflexes to the maximum as you attempt to rescue dumb scientists from the lunar surface. Beware of the exploding asteroids in this hectic challenge. **£4.50.**

BUG DIVER. In this highly original game, as a mere beetle you've gotta be fast to avoid the angry carnivorous fish whilst stealing their precious eggs. Their favourite meal is raw beetle. So watch out! **£4.75.**



INTRODUCTORY OFFER

Any 2 games	£7.90
Any 4 games	£12.95
Any 6 games	£15.90

— that's only £2.65 each!

MONEY BACK GUARANTEE

NOW FOR THE FIRST TIME IN UK.....

Six famous arcade quality games use machine code, Hi-res multi-color grafix, exciting sound effects, for any VIC-20, keyboard or joystick.

Available now in UK direct from manufacturer only thru our **super fast mail order service**, or 24hr credit card sales line. All games supplied on cassette with written money back guarantee.

Galactic Software

LAMBROOK RD. SHEPTON BEAUCHAMP. SOMERSET. TA19 0LZ

Please supply ______________

Debit my Access/Visa card (delete as necessary)

Card Number ______________

I enclose cheque/PO for £

Name ______________

Address ______________

0460 40744 (24hrs)

NEW NEW

VIC 20
ATARI : PHILIPS
INTELLIVISION
CARTRIDGE LIBRARY

Authorised Dealer

First Hire for FREE!

- ★ Extensive range of programs
- ★ Fast reliable service
- ★ Life membership
- ★ Descriptive catalogue
- ★ Fortnightly or monthly hire option
- ★ Special offers several times a year
- ★ P&P included in hire charges.

Membership fee £20
Send £10 now and balance with first order.

Hire charges:	
2 weeks	£3.00
4 weeks	£5.00

Please send me on money back approval, my library catalogue and membership card, along with order form, and if I'm not satisfied within 28 days you will refund my money in full.

NAME ....

ADDRESS ....

.... Tel. ....

To: M.D.M. Home Computer Services Dept. 4, 20 Napier Street, Nelson, Lancs. BB9 0SN.

☐ VIC 20 ☐ ATARI ☐ PHILIPS ☐ INTELLIVISION

VORCON WARS

A COMPUTER MODERATED PLAY BY MAIL GAME

Are you interested in battle and trade scenarios in the near future? Then VORCON WARS, an advanced strategy PBM game, is for you!
VORCON is a small planet in a distant solar system. Your journey has led you there to explore and trade with the Vorcons. However so have many other players throughout the UK. Conflict is inevitable! On you quest, build fortifications to protect yourself and lay minefields to trap the unwary. Position signal beacons for surveillance over your large and increasing territory, and then use transporters to move your men instantly to scenes of conflict. Build and launch a satellite for even more detailed information about the terrain and other players. Ultimately, a persistant adversary can be attacked using a full nuclear offensive, in a quest for planetary superiority.
This and much more can be yours when you play VORCON WARS. Turns are two weeks or less and cost £1 per turn but £1.50 will pay for your full introduction package of rule book, example sheets, blank map sheet and first three turns. Write soon as game ten is just starting. Send cheques or PO's to:–

J. M. NICHOLSON
71 JUNIPER, BIRCH HILL, BRACKNELL, BERKS.

We'll help you do better.

TEXAS INSTRUMENTS

SOFTWARE AT DISCOUNT PRICES

EXAMPLES —				
PARSEC	£26.50	MINI MEMORY	£69.95
EXT. BASIC	£69.95	JOYSTICKS	£20.95
CHESS	£35.50	INVADERS	£18.95

LANTERN SOFTWARE IN STOCK

TI-Ref. Magazine supplied individually or by subscription. A monthly magazine that is a must for all owners (dealer enquiries welcome).
All prices include VAT and postage.
Send SAE for full list or send cheque or credit card.

GALAXY
60 High St, Maidstone, Kent
Tel: (0622) 679265 or 682575

MICROSELL . . .

Umm . . . er . . . okay, so we all make mistakes! Our apologies to everyone who sent in ads. for August when we should have said they would be for September — the person responsible has now been put on traffic duty in the Seventh Empire. Anyway, we've now put our collective IQ of 3½ together and decided that ads. sent in by August 20th (and complying with all our conditions) will DEFINITELY be published in our October issue.

MICROSELL . . .

. . . is excellent value at only 25p a word to reach an audience of c75,000 a month; what's more, you can be sure that every one of that number is interested in the same things as you and that the probability of getting response is higher than almost anywhere else! Simply fill out the coupon and mail it (with the appropriate amount) to us. Meanwhile, here's the lucky ad. that made it into August . . .

MICROSELL . . .

FOR SALE Vic 20 games tapes half price. 58 Church Street, Coatbridge, Scotland. Phone Coatbridge 28299.

MICROSELL . . . MICROSELL . . . MICROSELL . . . MICR

1	2	3
4	5	6
7	8	9
10	11	12
13	14	15
16	17	18
19	20	21
22	23	24

Please write your advertisement in the box provided and continue on a separate sheet where necessary.

I enclose an ad. to be placed in the following issues: (state which months);

A TOTAL OF .... WORDS @ 25p EACH = £ ....

Name .... Tel. no. ....

Address ....

....

"MICROSELL", C&VG, 8 HERBAL HILL, LONDON EC1R 5JB.

CONDITIONS

1. All advertisements must be pre-paid (cheques/PO's made payable to COMPUTER & VIDEO GAMES).
2. This section is for PRIVATE advertisers only
3. Minimum of 15 words, maximum of 40 words allowed.
4. COMPUTER & VIDEO GAMES reserve the right not to accept an advertisement.

N.B. Anyone wishing to advertise in the SUPERMARKET section (cost £10 per column cm.) should contact MICK CASSELL on 01-278 6552.

DON'T MISS THIS INCREDIBLE OFFER!

50 GAMES £9·95!

CASSETTE 50 FOR YOUR MICRO



GALACTIC ATTACK	MAZE EATER	SUBMARINES
SPACE MISSION	ORBITTER	ROCKET LAUNCH
LUNAR LANDER	MOTORWAY	PLANETS
PLASMA BOLT	FORCE FIELD	BLACK HOLE
STARTREK	NIM	DYNAMITE
RADAR LANDING	TUNNEL ESCAPE	DO YOUR SUMS
ATTACKER	BARREL JUMP	DERBY DASH
GALACTIC DOGFIGHT	CANNONBALL BATTLE	SPACE SEARCH
ZION ATTACK	OVERTAKE	UNIVERSE
IVASIVE ACTION	SITTING TARGET	RATS
OXO	SMASH THE WINDOWS	TANKER
BOGGLES	SPACE SHIP	PARACHUTE
PONTOON	JET FLIGHT	JETMOBILE
SKI JUMP	PHASER	HIGH RISE
HANGMAN	INTRUDER	THE FORCE
OLD BONES	INFERNO	EXCHANGE
THIN ICE	GHOSTS	



U.T.S.

NOW AVAILABLE FOR

sinclair SPECTRUM
ZX81 (30 games 1K, 20 games 16K)
DRAGON
apple (ON DISC & CASSETTE)
VIC 20
LYNX
ORIC-1
ATARI
BBC A/B

ORDER NOW

only £9.95 inc. V.A.T. & Post & Packaging

Cash paid for games — contact us now!

CASCADE/U.T.S. GROUP

U.T.S.,
P.O. Box 96,
53 Lincoln Grove,
Harrogate,
N. Yorks. HG3 2UZ

DIRECT MAIL ORDER FORM

SUPPLY CASSETTE 50 FOR ____ COMPUTER

I enclose cheque/P.O. payable to U.T.S.

Name

Address

SHARPSOFT SOFTWARE SHARPSOFT SOFTWARE

WITH THE SHARP USER IN MIND

● **SHARPSOFT USER NOTES NO. 8** are now available, as a Sharp MZ-80A, MZ-80K or MZ-80B owner, if you have not yet subscribed send £5 (£10 overseas) to receive the first two issues of 1983 Nos. 7 & 8 by return. (Back issues still available).

● **PA-MON** is a must for any machine code programmer — with 31 commands, including very flexible cassette read and write functions, compare memory blocks, modify/display registers, set break points, list user stack, trace function, hexadecimal calculator, printer toggle on/off, send a byte through a port and many many more. It is the most powerful machine code monitor/debugger utility we have seen for the Sharp. Supplied with comprehensive user manual.
MZ-80A & MZ-80K £17.50

● **PROCESSING SPEED DOUBLED!!** The standard 2MHz Sharp MZ080A can now be easily modified to operate at double the speed. The modified system works in all respects like the standard MZ-80A, including time, music and cassette functions, except programs run twice as fast. Simple to fit, with no soldering, the modification is supplied with easy to understand instructions. MZ-80A only £39.00

● **BASIC COMPILER** This long awaited package is now available for the Sharp MZ-80A and MZ-80K computers. Generating machine code programs from BASIC — easy to use and understand. Speeds up programs no end. This is a must for any programmer.
MZ-80A & MZ-80K £17.50

● **DYBUG R** is a 2K machine code monitor program held in ROM, which simply plugs into the user ROM position of the MZ-80A's main CPU board. The Dybug R may be switched in and out as required, to assist the serious machine code programmer. MZ-80A only £13.95

● **MZ-80B DISC UTILITY** The most powerful disc utility ever written for the Sharp MZ-80B. Covering Sharp's own FDOS and BASIC formats, as well as CP/M. Recover erased files, read/write track by track, sector by sector. Compare track to track, sector to sector. Regenerate Master Diskettes. Far too many functions to list here. S.A.E. for specification. 60+ page user manual available at £5. If you use an MZ-80B you need DISC UTILITY. MZ-80B only £39.00

● **A PRACTICAL GUIDE TO THE MZ-80B COMPUTER GRAPHICS** This long awaited book on the use of graphics on the MZ-80B. Listing lots of programs and algorithms. This new book covers all aspects of computer graphics and their operation on the MZ-80B. £5.95

● **NEW . . . FAST MACHINE CODE GAME WITH A DIFFERENCE "MYRIAD"** Earth's long range sensors have detected a vast fleet of alien spacecraft heading towards it. You have to survive for the time limit which is ticking away on the top right hand corner of the screen. Are your reactions quick enough to win?? MZ-80A & MZ-80B £6.50

● **CASH FLOW & MODELLING** Make your MZ-80A finally earn its keep! Your own tailor-made financial planner covering a possible three year period, with user definable headings. Various display formats to help you monitor and plan income and expenditure, introducing control into your cash flow.
MZ-80A £12.00

● **TWO NEW CONVERTERS** convert from MZ-80K to MZ-80A or from MZ-80A to MZ-80K. These two utilities which unlike the Sharp converters POKE, PEEK, USR, INP, OUT calls are reproduced, not changed to %%%% and lower case date statements and much more are correctly translated.

MZ-80A to MZ-80K £9.00
MZ-80K to MZ-80A £9.00

NEW LIST OF EDUCATIONAL/GAMES SOFTWARE NOW AVAILABLE
SEND S.A.E. FOR COMPLETE LIST

SHARPSOFT LTD. **01-739 8559**

CRISALLEN HOUSE, 86/90 PAUL STREET, LONDON EC2A 4NE

SHARPSOFT SOFTWARE SHARPSOFT SO

SOFTEK

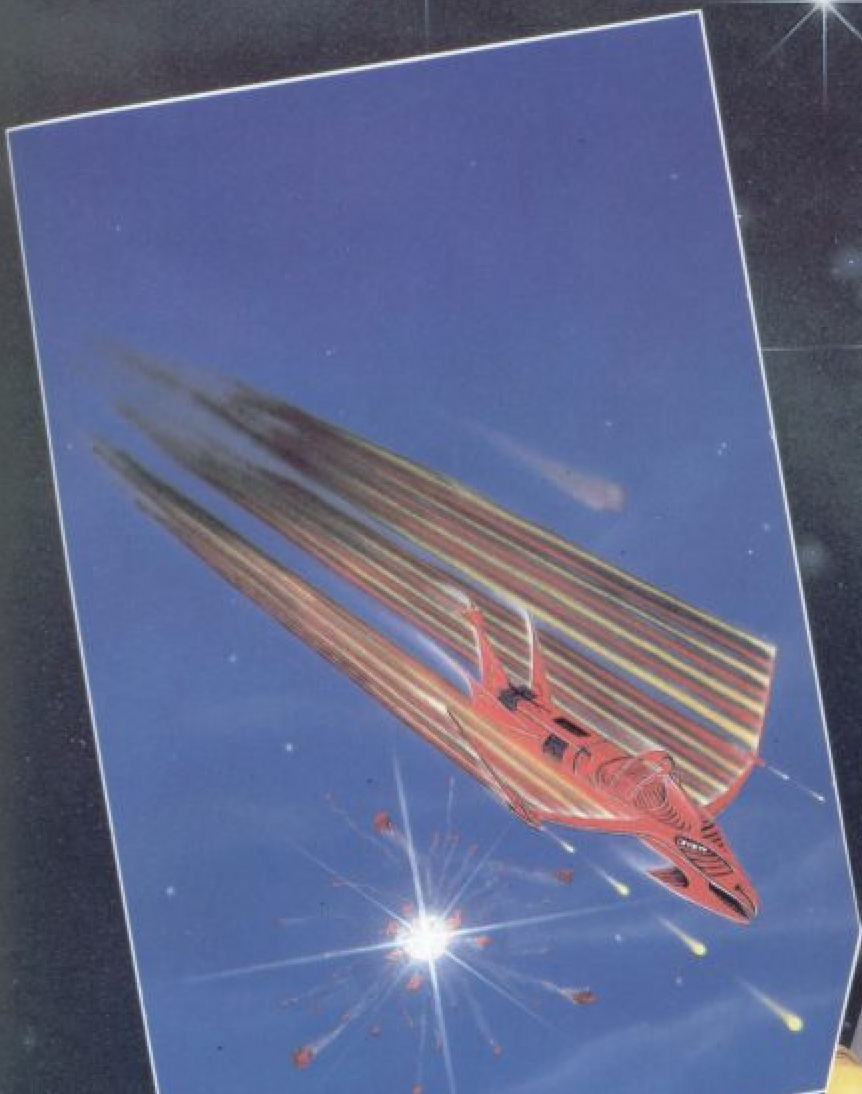
ULTIMA RANGE

Invading your space NOW!



JOUST!

Hidden in the folds of time's cloak lie tales of the Shadow Lords and battles with the Eldrons. But these are times when Myth and Reality mingle, for Lo! the Shadow Lords are come. You White Knight, are the sole remaining keeper of an Ostron and Sage of the Old Lore. . . You are Man's last hope!
Joust with the dark lords on their buzzards in this superb game which sets new standards of excellence for machine coded high-resolution graphics for the Spectrum. Joystick compatible and with a ten-player high-score table.
Realisation: Andrew Glaister.



FIREBIRDS

In the last days of the Zolastra era the Devron ruled supreme. An evil force in a Universe almost devoid of Good, the Devron sent forth their Firebirds to destroy your last outpost of Mankind. Fiendish in their swirling attack formations, the Firebirds are joined by Blue Weavers and White Bombers to make your position seem almost hopeless. But you have your Hypergrav Drives and Blitzer Lasers and feel confident of reaching the Mothership. . . don't you?
A quite amazing blend of arcade game action with specially crafted super smooth movement designed to set a new standard in home arcade game action.
Realisation: Graham Devine.

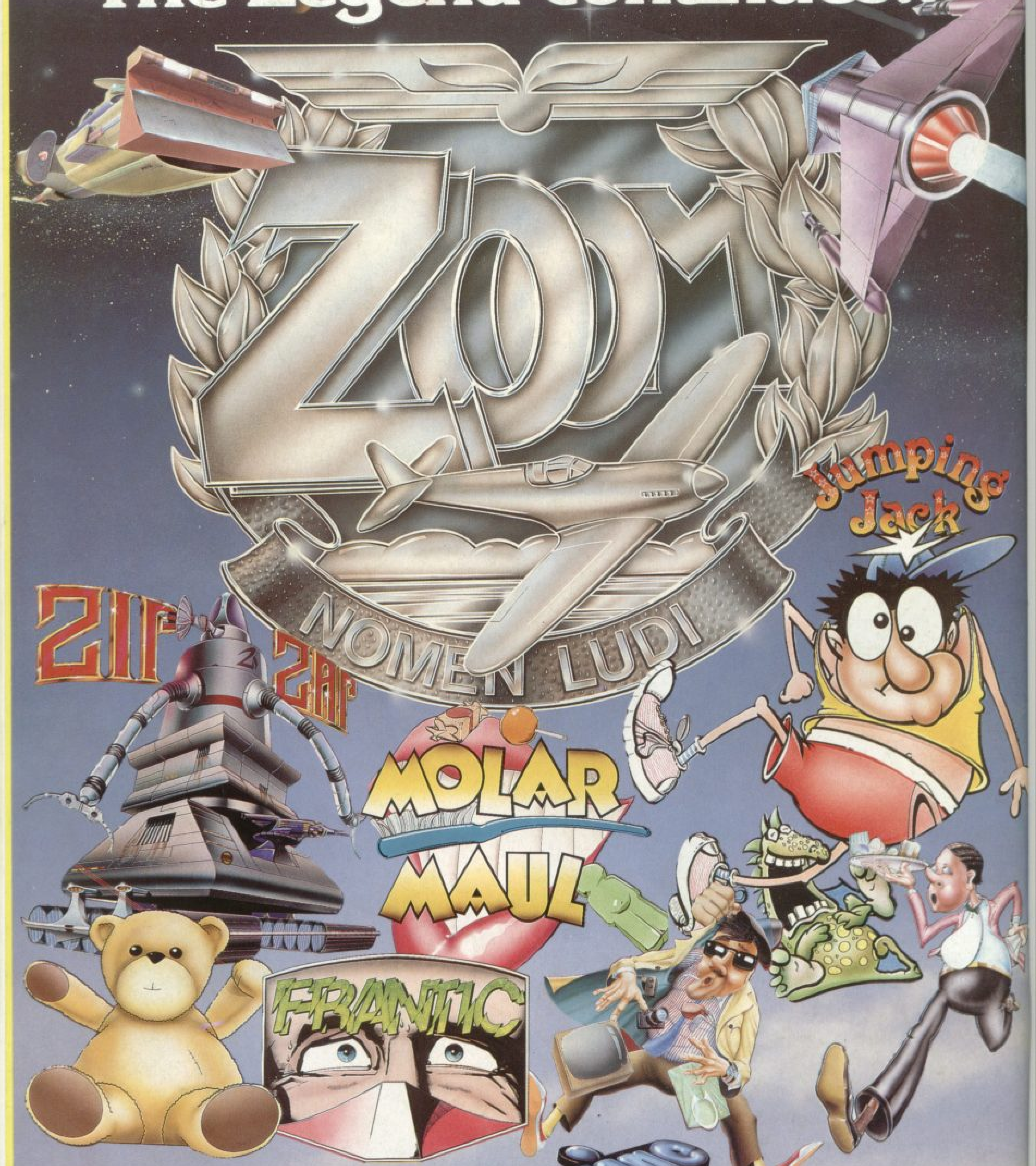
Just two of Softek's amazing range of software for the ZX Spectrum.

£5.95
each including VAT and perpetual guarantee; 16K or 48K Spectrum.

Look out for them now in W. H. Smith, and such stores as John Menzies, Boots, Currys, and other fine softsellers throughout the world.
Dealer enquiries: contact Tim Langdell

SOFTEK SOFTWARE 329 CROXTED ROAD LONDON SE24

The Legend continues...



imagine ..the name of the game

Imagine games available from
W.H. SMITH, Boots. John Menzies, Dixons, Laskys, Photomarkets U.K.
and all other good Software Outlets.

Any of these games for just
£5.50 EACH
including first class post, packaging, VAT and an UNCONDITIONAL LIFETIME GUARANTEE.
If you have any difficulty in obtaining any Imagine Games ring Imagine Direct on **051-236 6849 to place your order.**

Imagine Software, Masons Buildings, Exchange Street East, Liverpool, Merseyside L2 3PN.